A

COLLECTION

OF

CHARTS AND MEMOIRS.

PUBLISHED BY

ALEXANDER DALRYMPLE, ESQ.

N. B. The *Writing* in the *Chart* of the *Weſt-Coaſt* of *Palawan*, in the *2d Plate* of *Memoir N* 3; as well as the *Views N* 3 *and* 5; and the *Chart* and *Views* of *Hainan*; was engraved by *William Palmer*, *New-Street Square*, *Shoe-Lane*; whom I have found very *punctual* to his Engagements, and *moderate* in his *Price*.

Additions to, and Corrections of, the Memoirs.

Memoir 1. — Eſſay on Marine Surveying.

I Forgot to mention that I have ſometimes uſed the *Sun's Amplitude*, inſtead of the *Compaſs*, for taking the *bearings*, by meaſuring the angle from the *Sun*'s *limb* to ſome *point* on the Land; this is very convenient, as it gives the *true bearings* without *Magnetick Variation* or any *accidental* error of Compaſs. On mentioning this to the *Aſtronomer Royal*, he obſerved that the *Sun's Azimuth* might be uſed for the ſame purpoſe, taking care to meaſure a wide angle to prevent any error ariſing from the Sun's Altitude, if it ſhould not be thought neceſſary to correct by it; This however obvious, never occured to me, and therefore it ſeemed proper to mention it here, as it may equally eſcape others.

In page 3 line 11. If *two* known Objects are ſeen in *one* line, the Station, from whence they are ſeen, may be found by *one* angle, made by them and ſome other Object; for having drawn the Circle correſponding to this angle, (as deſcribed fig. 4.) a line drawn thro' the *two* objects ſeen in *one* will interſect the Circle in the *ſpot* where the ſtation falls, in the ſame manner as another Circle would (fig. 5.)

In page 6 line 3. It is obvious that if the *angle obſerved* be more than 90°. the *double* will conſequently be more than 180°. in which caſe the *difference* between that *double angle* and 180°. will be the *ſum* of the *two* angles. Or the *difference* between the *angle obſerved* and 90°. will be the amount of *each* of the other angles.

Memoir 2.

P. 8. l. 13. The Bridgewater Capt. Skottowe had *ſoundings* in the night on the *Andrade* coming from China 1771, but did not ſee the rock.

ERRATA.

12
+

ERRATA.

Memoir of *Chart* of *China-Sea.*

P. 6. l. 17. and - dele.
22. for Ships, early in the ſeaſon, read - Ships early in the ſeaſon.
P. 9. - 21. 146′.— read 146′—"

Journal of Schooner Cuddalore Oct. 1759.

P. 11. l. 14. From the - dele

Journal on Coaſt of Hainan.

P. 8. l. 1. for 17°.— ; read W 17°.—N
10. 24. W5.—S - W 15.—S
17. 8. The Wind being light and the tide againſt us, &c. read My intention was to examine the paſſage between *Gelang* Point and the *E. Brother*, but the Wind being faint and the Tide againſt us, I was unable &c.
P. 18. l. 24. for Corner of the Harbour, near the River read - Corner of the Harbour, near the River,
28. to - dele
19. - 7. for thas - read - that
25. - 19. N b W - W b N
32 - 8. } 8°. 9′. 35 - 18°. 9′. 35°.
9. }
35 - 16. 8. 5. 21 - 18. 5. 21.

General Introduction.

P. 4. Chart 4, after line 8, add - *and a Plan of* Sooloo Road - 0. $\frac{4}{10}$—1′.
5. l. 15. for engraved, read - etched
5. 22. Views of the Land of Palawan, &c. add, etched by D. Lerpeniere, the Writing engraved by W. Palmer.

GENERAL INTRODUCTION

TO THE

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ALEXANDER DALRYMPLE, ESQ.

Humanum eſt errare. VIRGIL.

LONDON:

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10

GENERAL INTRODUCTION

TO THE

CHARTS, &c.

IN this Collection I include the following Tracts, viz.

1 - - - - An *Eſſay* on *Marine-Surveying*, with an explanatory Plate.
2 - - - - *Memoir* of a *Chart* of the *China-ſea*.
3 - - - - *Memoir* of the *Chart* of Part of the *Coaſt* of *China*, and the *adjacent Iſlands*, near the mouth of *Canton River*.
4 - - - - *Journal* of the *Schooner Cuddalore*, on the *Coaſt* of *China*, near *Honghai*.
5 - - - - *Journal* of the *Schooner Cuddalore*, on the *Coaſt* of *Hainan*.
6 - - - - *Memoir* of a *Chart* of the *Weſt Coaſt* of *Palawan*.

	The *Charts* in this Collection are,	Scale. Inches.	Mile.
1	*The* China-Sea, *from* 0°. to 24°. *N°. Lat.*	0. $\frac{1}{60}$	to 1′
2	*Part of* Borneo *and the* Sooloo Archipelago	0. $\frac{1}{20}$	— 1
3	Felicia	0. $\frac{1}{10}$	— 1
	With a Plan *of* Balambangan, *in the corner*	0. $\frac{8}{10}$	— 1
4	*The* Sooloo Archipelago	0. $\frac{2}{10}$	— 1
	With a Plan *of* Toolyan Bay, *by* Mr. Rennell	1. $\frac{6}{10}$	— 1
5	*The* West Coast *of* Palawan	0. $\frac{1}{10}$	— 1
	With a Plan *of* Deep Bay	0. $\frac{4}{10}$	— 1
	And a Plan *of a* Shoal, *off that Coast*	0. $\frac{4}{10}$	— 1
6	*The* Coast *of* China, *with the* Lema, *and other* adjacent Islands *from* Pedro-Blanco *to the* Mizen	0. $\frac{2}{10}$	— 1

Besides these *large* Plates, which are 24 Inches by 18 within the inner margin, there are several *small*, appertaining, properly, to the Memoirs, viz.

Memoir.	Plate.	
3.	1	Containing the *Stations* and *Data* by which the *Chart* of the *Lema Islands*, &c. was laid down, the *Scale* is the same with *Chart N* 6, so that the *Meridien* of the *Grand Ladron*, with the *Latitude*, will be sufficient to explain *this Plate*, and shew what are the *authorities* for the *Chart*: the *faint lines* are the *bearings* from the several Stations; the *dotted lines*, the *transient bearings*. *(a)*

(a) By *transient bearings* I mean points or places set *in one direction*.

2. *Part*

Memoir.	Plate.		Scale. Inches. Mile.
3.	2 -	*Part* of the *Coaſt* of *China*, by *Felis Mendoza*, a *Portugueſe* Pilot belonging to *Macao* - - -	0. $\frac{2}{10}$ to 1′
		Capt. Alves's Sketch of the *London*'s paſſage thro' the Iſlands -	0. $\frac{2}{10}$ — 1

I could not reconcile this Chart with my Obſervations, nor determine *where* Capt. Alves came out; he ſent it to me *merely* as a *Sketch*. He was ſince *cut off* in the ſame Ship, at *Poolo Laut* near *Borneo*; as he was a good Artiſt and a Man of Obſervation, his misfortune is a loſs to the Publick.—The Account of his Paſſage is inſerted in Memoir 4. p. 13.

3 4 5	-	*Views* of the *Lands* in *Chart* N 6. engrav'd by D. Lerpeniere.

			Scale. Inches. Mile.
4.	1 -	The *Coaſt* of *China* adjacent to *Honghai* - - - - - - -	0. $\frac{2}{10}$ to 1
	2 -	*Views* of the *Land*	
5.	1 -	Part of the *Coaſt* of *Hainan* - -	0. $\frac{1}{10}$ — 1
	2 -	*Views* of the *Land*	
6.	1 -	*Views* of the *Land* of *Palawan*, &c.	

In *general* it is to be underſtood of theſe Charts, that the *top* is *North*.

The *ſoundings* are in fathoms of 6 Engliſh feet; the *plans* expreſs the depths at *low water*; but no correction could be made

made in the *General Charts* for the *time* of *tide*, or *height* of the *flood*; the *ſoundings* are therefore ſuch as they were found: in general the *Tides* riſe about 6 *feet* on the *Coaſt* of *China*, about the *N°. End* of *Borneo*, and at *Sooloo*.

This ÷ denotes that there was *no ground* at the depths there expreſſed.

c - - - - - - -	coarſe
f - - - - - - -	fine
cl - - - - - - -	*coral* bottom
s - - - - - - -	ſand
ſh - - - - -	ſhells
gr - - - - -	gravel
m - - - - - -	mud
o - - - - - -	ouze
r - - - - - - -	rock

I have publiſhed no explanatory Memoir to the Charts N 3 and 4.—This could not be done, effectually, without engraving many *Views* of the *Land*, which would be a conſiderable expence, very inconſiſtent with that prudent œconomy neceſſary in a man of ſmall fortune.

As there are no *Memoirs* to theſe *Charts* N 3 and 4, it may be proper, concerning N 3, to obſerve, that having taken many *angles* from the *hills*, &c. of *Balambangan*, and of *Mallawallé*, from ſeveral of the *Iſlands* around *Banguey*, and from *Sampanmangio* on *Borneo*; the poſition of the *Iſlands* from *thence* to *Balabac Northward*, and to *Seemaddal*, inclu-ſive, *Eaſtward* are laid down by a Chain of theſe *Angles*: the *Iſlands*, &c. from *Bahalatolis* to *Soogoot*, are laid down by another Chain of *Angles*, taken upon the Iſlands which lye off this Coaſt, and which was united with the former, by the aſſiſtance of *Banguey* and *Kaindangan*.—Several *Peaks*, in the range

range of *Hills* to the *Southward* of *Sampanmangio*, having been found by the former Stations, gave a Station at *Abai*, which agreed with the *Latitude obſerved*; this, another Station off *Batomandé*, and one intermediate, with a few Obſervations in paſſing, are the *authorities* for the *N. W. Coaſt*.—The *inner* track of Soundings are the London's 1762, the *outer*, the Neptune's 1763.—Theſe Tracks will ſhew where our Obſervations were *very imperfect*.

The Chart N 4. was laid down from many Stations, conſiderably above *one hundred*, though many of theſe were of little uſe but in laying down ſoundings exactly; I imagine the poſition of *all the Iſlands* will be found without any conſiderable error; many of the Soundings are only from the Ship's logs, corrected indeed frequently by Stations; however although I have marked *all* the *banks* of which I received information from the *Sooloos*, the Navigation of theſe Seas requires great care, as it is very probable there may be others of which I have received no account; for although it is not likely there are *any*, *unknown* to them, it is very probable *ſome* may have eſcaped their *recollection*, as I know to be the caſe in a few inſtances, having fallen in with *banks*, of which I had received no account, but afterwards found they were not unknown to the *Sooloos*.

I conceive to the *North-eaſtward* of *Teomabal* and *Toobigan* there are many dangerous ſhoals; the edge of the bank from thence towards *Sangboy* is very ſteep, ſuddenly ſhoaling from *no ground* to 9 and 8½ fath. *corally*. This is very alarming, but according to the information of the *Sooloos*, there is no *ſhoal* water till you approach *Salleeoolakkit*, nor did I ſee any thing of the kind either in the London or Neptune: however, I do not think any ſhip, either going to, or coming from *Sooloo*, ought to paſs between *Sangboy* and *Toobigan*, except

except in caſe of falling to leeward of *Pangootaran* in the *S. W. Monſoon*, when it becomes, in a manner, neceſſary to take the advantage of the *Tides*, by anchoring on the *bank*, which is in general *ſand*, and has every where *pearl-oyſters*.

Takoot Paboonoowan is laid down from a plan made by my ſervant *Pedro Manuel*, a native of *Ylocos* on *Luzon:* coming down in a galley with the ſhips from *Manila* 1764, he anchored on it, and took the bearings of ſeveral places from thence, which I found to agree with their poſitions as I had determined them.

Maloza Bay on *Baſeelan* is from a *plan* made by *Capt. Alves* in 1764, the *South* Coaſt of *that Iſland* is copied from a *Spaniſh* MS.

It is not pretended that *any* of theſe *Charts* are *Surveys*, according to my idea of the word *Survey*; by which I underſtand "a Chart where *every thing* is *minutely* and *accurately* "laid down, ſo that there is no room for *additions* or *cor-* "*rections.*" But ſuch works very ſeldom appear, and I have ſeen ſome *Charts* very defective and erroneous, which the Editors have thought proper to call *Surveys*.—I flatter myſelf the Navigator will reap advantage from the information theſe Charts convey; and I may venture to ſay, nothing yet publiſhed of thoſe parts are equal to them. But an *implicit confidence* is what no man is excuſable for placing in any Chart, and I exculpate myſelf from all conſequences which may proceed from ſuch miſconduct.

The very great expence of *engraving* may poſſibly prevent any further publication of this kind by me, but it may perhaps be ſatisfactory to the curious to have an account of the other Charts, which my Voyages and Views of Land will enable me to lay down, as well as the ſeveral *Journals* which appear to be of ſufficient conſequence for publication.

1 Journal of the Schooner Cuddalore 1761 through between *Pany* and *Negros*, and amongſt other of the *Philippin Iſlands*.

2 Journal of the Schooner Cuddalore along the *Weſt* Coaſt of *Celebes*, and alſo on part of the *North* Coaſt 1761.

3 Journal of the Schooner Cuddalore through the Strait of *Sapy* and along the *S°. Coaſt* of *Mangery* or *Flores* 1761.

4 Journal of the Ship London along the *North* Coaſt of *Magindanao* in 1764.

5 Journal of the Schooner Cuddalore along the Coaſt of *Cochin-China* 1760.

6 Journal of the Schooner Cuddalore from *Banguey* by the *Natunas* and *Anambas* to *Teoman* 1761.

7 Journal of the Schooner Cuddalore to the *Iſlands* between *Luzon* and *Formoſa* 1759.

Theſe ſeveral Journals are accompanied with many *Views* of the *Lands*.

The Charts proper to accompany them would be

		Scale. Inches. - Mile.
1 - -	From 10°. to 14°. N°. containing *Pany*, the *Cuyos*, *Mindoro*, &c. with a *Memoir* containing the Journal N 1. and *Obſervations*, concerning the *Weſt Coaſts* of *Mindoro* and *Pany*, in the Cuddalore 1761, Neptune 1763, Revenge 1764, and amongſt the Cuyos 1764. - -	0.$\frac{1}{10}$ to 1′
2 - -	*Coaſt* of *Celebes* in 2 ſheets, from 6°. 30′ S°. to 1°. 30′ N.- - - -	0.$\frac{1}{10}$ — 1′

Laid down from my own obſervations *chiefly*, but

 contain-

containing part of the *inland* Country, and ſome parts of the Coaſts from Charts which I collected during my peregrinations.

The Journal N 2. explains my own obſervations.

			Scale. Inches.	Mile.
3	- -	*Strait* of *Sapy*, and part of the *S°. Coaſt* of *Flores*, and *N°. Coaſt* of *Sumba* -	0.$\frac{1}{10}$	to 1′
4	- -	*N°. Coaſt* of *Magindanao* - - - - -	0.$\frac{1}{10}$	— 1′
		Laid down from my own obſervations; but the *inland* Country and Rivers inſerted from ſome *Spaniſh* MSS. I obtained amongſt the *Philipinas*.		
5	- -	*Coaſt* of *Cochin-China*, from my own obſervations - - - - - - - - -	0.$\frac{1}{10}$	— 1′
6	- -	The *Natunas*, *Teoman*, &c. - - -	0.$\frac{1}{20}$	— 1″
		Comprehending alſo the Iſlands in the *Carimata Paſſage* from various obſervations of *others*, explained in a *Memoir* containing Journal N 6. my own *obſervations* amongſt the *Teoman Iſlands* 1759, 1761, 1762, and 1763, and other Remarks.		
7	- -	The *Iſlands* between *Luzon* and *Formoſa* and part of *Luzon* from 17°. 30′. N to 21°. 30′. N the *interiour country* of *Luzon*, and the *Coaſt in general* from Spaniſh MSS.	0.$\frac{1}{10}$	— 1′

Any Perſon who has obſervations, or other materials, which they think could be uſeful in improving any of thoſe Charts, will, by the communication, be juſtly entitled to my thank-

thankful acknowledgments, as I ſhall compleat them as far as my own Obſervations, and the materials in my poſſeſſion, will admit, even although I may not *publiſh* them.

Miſcellaneous Nautical Obſervations, during my voyages through different parts of the *Indian Seas*; in the *Strait* of *Malacca*, amongſt the *Nicobar Iſlands*, &c. with *Charts* and *Views* of *Land*.

Nautical Remarks and Charts of various parts of *India, collected*, ſufficient to make a more complete *Set* of *Charts* and *Sailing Directions* than any hitherto publiſhed. But to do *this* would be too great an Undertaking for any man, unleſs it was his *particular occupation*; however, for the Satisfaction of the Curious, I have annexed

A Liſt of my Collection of Charts of the EAST-INDIES.

Claſſes

1 Cape of Good-Hope
2 Madagaſcar and Mozambique Channel
3 Mauritius, Maldivés and *Southern* Paſſage
4 Red-Sea
5 Gulph of Perſia
6 Mallabar, &c.
7 Ceyloan and Choromandel
8 Bengal

9 Pegu

9 Pegu
10 Nicobar and Andaman
11 Strait of Malacca
12 Teoman *(a)* to Strait of Banca
13 Java and Sumatra
14 Borneo
15 Eaſtern Iſlands
16 Magindanao
17 Philipinas
18 Formoſa and Japan
19 China and China-Sea
20 Hainan, Cochin-China and Camboja
21 Palawan and Karang-Bander

In the Liſt I do not mention the Charts in the *Engliſh Wagoner*, in *Van Keulen*, in *Cornwall*, or in the *Neptune Oriental*; which are the only *printed* Collections I know of Eaſt Indian Charts.—As the *few Plans* in *Pimentel* do not deſerve the name of a Collection.

(a) Teoman, as it is named by the *Natives*, is called by Europeans P°. Timoan and P°. Timon.

Liſt

List of Charts of the EAST-INDIES.

N 1 Cape Good-Hope.

		Scale. Inches.		By whom.
	Table and False Bay - - -	None	- -	Unknown
D.	False Bay to Saldanha Bay -	16.0	- 1°.	D°
D.	D° - - - - - - - - - - - -			D°
pr. D.	False Bay - - - - - -	1.80	- 1'.	(Altered by) W. Nicholson
D.	D° - - - - - - - - - -	0.50	- 1'.	(D° by) Capt. Abercromby
D.	Saldanha Bay - - - - - -	0.48	- 1'.	Unknown
F.	Bank off the *Cape* - - - -	1.29	- 1°.	D°
E.	Part of the Coast of Africa -	3.20	- 1°.	Dodington's crew
E.	Coast adjacent to *Bird* Island -	0.80	- 1'	D°
E.	Bird Island - - - - - - -	4.0	- 1'	D°
	Delagoa 6 Dra^ts. - - -	0.11 0.13 0.33 0.22 0.57 0.66	- 1'	Various

N 2 Madagascar and Mozambique Channel.

P.	Coast from Soffola to Angoxa	None	- -	MS. in British Museum
E.	St. Augustine on Madagascar	2.0	- 1'	H. T. H.
pr. E.	D° - - - - - - - - - -	3.0	- 1'	Mr. Nicholson
E.	D° - - - - - - - - -	0.79	- 1'	Unknown, aboard the Terpsichore
E.	D° - - - - - - - - - -	0.93	- 1'	Admiral Griffin

N 2

		Scale. Inches.			By whom.
E.	St. Auguſtine to Cape St. Andrew - - - - - - -	6.48	-	1°.	Mr. White, in Dutch Service
E.	Cape St. Andrew to Maſſalege	6.59	-	1°.	D°
E.	D° - - - to Aſada	2.95	-	1°.	Charles Wylde, 1650, Brit. Muſ.
Dan.	N. W. Coaſt of Madagaſcar from Bally to Maningara	12.43	-	1°.	Capt. Jac. Holſt, 1738
E.	D° Comoro Iſlands and part of Africa from Moſambique to Cape Delgado - - -	2.75	-	1°.	Alex. Sibbald
E.	Comoro Iſlands - - - - -	3.0	-	1°.	H. T. H. 1766
	Comoro Bay - - - - - -	None	-	-	Unknown
E.	Part of Comoro - - - - -	0.50	-	1′.	Alex. Sibbald
E.	N°. End of Mayotta - -	2.75	-	1′.	Mr. Watſon, with additions by C. Pigou
E.	Part of Mayotta - - -	0.14	-	1′.	Mr. Barker, *Grantham*
	Johanna - - - - - - - -	0.29	-	1′.	Unknown
E.	Johanna Bay - - - - - -	1.0	-	1′.	Capt. Peter Pigou
E.	D° - - - - - - - - - -	3.43	-	1′.	Alex. Sibbald
E.	N°. Side of Mohila - - -	None	-	-	Unknown
F.	Mozambique - - - - - -	1.31	-	1′.	D°
F.	Suſſex's Shoal - - - - -	0.50	-	1′.	Capt. W. Smith
E.	D° - - - - - - - - - -	0.33	-	1′.	Unknown
E.	D° - - - - - - - - - -	0.61	-	1′.	Capt. Chandler
E.	Latham's Shoal off Zanzibar -	1.0	-	5′.	Unknown
E.	Pata - - - - - - - - -	0.75	-	1′.	Capt. Crichton
E.	Zanzibar - - - - - - -	0.55	-	1′.	Unknown

Coaſt

N 2

		Scale. Inches	By whom.
E.	Coaſt of Zanzibar, 1747, from C. Delgado to Penda	None	Unknown (Bonadventure Grab)
E.	Part of the Mozambique Channel from 21°. S° to 14°. S°	2.12	1°. Alex. Sibbald
E.	Mozambique Channel	4.0	1°. Capt. N. Smith
F.	E. Coaſt of Madagaſcar from St. Mary's to Foul Point	8.25	1°. Unknown
	D°	8.23	1°. D°
E.	St. Mary's	9.51	1′ John Brohier
		Toiſes.	
F.	D°	2.15 to 80	Unknown
	Foul Point	9.59	1′ D°
		Toiſes.	
	D°	5.0 to 100	D°
		Fathoms.	
	D°	7.43 - 600	D°
F.	D°	4.97	1′. D° (Jupiter 1735)
	Long Point	0.67	1′. D°
F.	Mattatané	0.74	1′. D°
E.	Port Dauphin	1.0	1′. Chatham Man of War
F.	D°	1.10	1′ Unknown
	D°	0.96	1′ D°

N 3 Mauritius, Maldivés and Southern-Paſſage.

			Scale. Inches.		By whom.
				Toiſes.	
pr. F.	Mauritius	- - - - - - -	2.60	- 6000	Abbé Le Caille
F.	D°	- - - - - - - - -	0.23	- 1′	Unknown
F.	D°	- - - - - - - - -	0.29	- 1′	D°
E.	Part of d°	- - - - - - -	1.14	- 1′	Capt. Blake
E.	N. W. Harbour	- - - - -	6.65	- 1′	D°
F.	D°	- - - - - - - - -	0.98	- 1′	M. Liebaut
	D°	- - - - - - - - -	12.04	- 1′	Unknown
	S. E. Harbour	- - - - -	1.43	- 1′	D°
F.	D°	- - - - - - - - -	0.99	- 1′	M. Liebaut
F.	Diego-Rais, or Roderigue, with the *Southern* Harbour -		1.56	- 1′	Unknown
				Yards.	
E.	D° - Road	- - - - -	8.14	- 1760	Mr. Mallam, Maſter of the Norfolk Man of War
				Feet.	
pr. E.	D° - d°	- - - - -	8.39	- 5400	Mr. Nicholſon, Maſter of the Elizabeth M. of War
E.	Southern Paſſage	- - - - -	1.39	- 1°.	H. T. H.
E.	*Orixa*'s Iſlands and Bank	- -	6.28	- 1°.	Mr. Scott, 1756
F.	Mahé Iſlands	- - - - - -	21.05	- 1°.	1768
				Toiſes.	
pr. F.	Port Seychelles on d°	- -	2.23 4.19	3000 1000	D°, publiſhed by Bellin
E.	*Corniſh* Iſland and Bank	- -	4.40	- 1°.	C. Crichton
E.	The *Griffin*'s Track, 1749 -		6.0	- 1°.	Laid down from the Journal
E.	The *Pitt*'s Track on the Chagos		12.0	- 1°.	Mr. Stevens, 1763
E.	The *Speaker*'s Bank	- - -	1.50	- 1′.	Mr. Scot, 1763

The

N 3

		Scale. Inches.		By whom.
E.	The *London*'s Bank, 1744 - -	6.0	-	1°. Laid down from the Journal
D.	*King*'s Iſland, Maldivés - -	9.80	-	1′. Peter Sandelyn
	D° - - - - - - - - - -	0.30	-	1′. Unknown
	Maldivé Iſlands - - - - -	6.0	-	1°. D°

N 4 Red-Sea.

	Judda Harbour - - - - -	0.92	-	1′. Unknown
	D° - - - - - - - - - -	0.74	-	1′. D°
	D° - - - - - - - - - -	0.89	-	1′. D°
	D° and Ship *Charles*'s Track - - - - -			D°
	Ports in Red-Sea - - - - -			- - - - - D°
	10 Charts of Red Sea - -	2.66	-	1°. } D°
		None	-	-
		3.63	-	1°.
		2.59	-	1°.
		3.80	-	1°.
		2.60	-	1°.
		None	-	-
		2.70	-	1°.
		2.73	-	1°.
		3.34	-	1°.
E.	Red-Sea - - 2 Pts. - -	6.0	-	1°. Com. J. Watſon
	Part of d° - - - - - - -	5.73	-	1°. Unknown
	Entrance of d° - - - - - -	0.42	-	1′. D°
	D° - - - - - - - - - -	2.88	-	1°. } D°
	Mocha Road - - - - -	3.05	-	1′. }
	Mocha Road - - - - -			- - - - - D°
F.	Socotra - - - - - - - - -	11.86	-	1°. Unkrown
E.	Kiſſen - - - - - - - - -	1.22	-	1′. Capt. Crichton
	D° - - - - - - - - - -	1.22	-	1′. Unknown

N 5 Gulph

N 5 Gulph of Perſia.

		Scale. Inches.		By whom.
F.	Gulph of Perſia - - - -	1.79	1°.	Unknown
	Buſſorah River - - - -	6.0	1°.	D°
	D° - - - - - - - - -	13.20	1°.	D°
	D° - - - - - - - - -	0.15	1′.	D°
	D° - - - - - - - - -	0.11	1′.	D°
E.	Karak - - - - - - - -	0.50	1′.	D°
E.	Buſheer - - - - - - - -	0.90	1′.	Capt. Symmons
E.	D° - - - - - - - - -	1.48	1′.	Unknown
	Muſcat - - - - - - - -	None	- -	From Brit. Muſ.
E.	D° - - - - - - - - -	2.0	1′.	Reeves Woodſon

N 6 Mallabar, &c.

E.	Harbour of Crotchy - - -	None	- -	Unknown
E.	Coaſt of Sindee - - - - -	None	- -	D°
E.	D° - - - - - - - - -	None	- -	D
E.	D° - - - - - - - - -	0.20	1′.	D°
E.	D° - - and Guzurat - -	3.0	1°.	Capt. Simmons
E.	D° - - - - d° - - -	3.75	1°.	Unknown
F.	D° - - - - - - - - -	4.30	1°.	D°
E.	Coaſt of Guzurat - - - -	0.19	1′.	D°
F.	Gulph of Cambay and d° -	4.30	1°.	D°
D.	D° - - - - - d° - -	2.27	1°.	D°
E.	Surat River - - - - -	0.48	1′.	D°

N 6

		Scale. Inches.		By whom.
pr. E.	Bombay Harbour in Sheets -	3.95	1′.	Mr. Nicholſon
pr. E.	D° reduced - - - - -	1.30	1′.	D°
E.	D° Road - - - - - - -	6.62	1′.	Unknown
E.	D° d° - - - - - - -	1.69	1′.	Chatham Man of War, C. Lynn
E.	Bombay Iſland - - - - -	2.67	1′.	Henry Doidge
P.	Culap - - - - - - - -	3.25	1′.	Unknown
P.	D° - to Zoul - - - -	1.69	1′.	D°
E.	Choul River - - - - -	5.0	1′.	D°
E.	Dundee Rajapore - - - -	4.13	1′.	D°
E.	Boncout in 18°. 8′ N°. - - -	No Scale	-	D°
		Yards.		
E.	Gharia - - - - - - - -	4.45	1760	D°
E.	D° - - - - - - - - -	- - - -		D°
P.	Mellundy - - - - - -	1.85	1′.	Portugueſe Engineer
		Feet.		
E.	D° - - - - - - - - -	2.0	to 800	C. Watſon
P.	Goa Diſtrict - - - - -	0.62	1′.	Unknown
E.	Goa Harbour - - - - -	1.22	1′.	Reeves Woodſon
F.	D° - d° - - - - - - -	0.47	1′.	Unknown
E.	Merjee - 1725 - - -	2.34	1′.	D°
E.	Comptee - 1725 - - -	8.93	1′.	D°
E.	Onor - - - - - - - -	4.56	1′.	D°
E.	Baſſalor or Bodven - - -	0.83	1′.	D°
		Dutch Roods.		
D.	Cranganor Mud-bank - -	11.45	to 1000	D°
		Fathom.		
F.	Ramadilly, from M^{r}. Dilly N^{d}.	2.29	600	D°

Tellicherry

N 6

			Scale. Inches.		By whom.
E.	Tellicherry Bounds from Mt. Dilly to Mahé		0.89	1'.	De Funk, 1755
E.	D°	Road	None		Chatham Man of War
F.	Mahé	1728	None		Unknown
			Yards.		
E.	D°	1763	2.18 to 600		D°
D.	Cochin River		1.04	1'.	D°
E.	Anjango River		1.71	1'.	D°
	Coaſt and Kingdom of Travencore			1'.	D°
E.	Lackadivés		1,70	1'.	Connor
E.	D°	and Mallabar Coaſt	3.15	1°.	Mr. Herbert
E.	Mallabar Coaſt from Surat to Mount Formoſa				Aug. Fitzhugh

N 7 Ceyloan and Choromandel.

D.	Ceyloan		6.0	1°.	Unknown
E.	Tutacoreen Bay with Soundings		5.68	1°.	Capt. Blake
D.	Tutacoreen Coaſt		0.26	1'.	Unknown
D.	D°	Harbour	1.55	1'.	D°
D.	D°	D°	1.55	1'.	D°
D.	W. Coaſt of Ceyloan from Manaar to Negombo		0.39	1'.	D°
D.	Pt. de Galé		1.55	1'.	D°
D.	Matura Bay				D°
D.	Nyle Bay		0.49	1'.	D°

Battacaloa

N 7

		Scale. Inches.			By whom.
E.	Battacaloa - - - - -	0.50	-	1′.	*Falmouth* Man of War
D.	Eaſt Coaſt of Ceyloan from Batacaloa to Trincomalé -	0.37	-	1′.	Unknown
		Yards.			
pr. E.	Trincomalé - - - - - - - -	3.55	- to	1800	Mr. Nicholſon
E.	D° - - - - - - - - - - - -	1.25	-	1′.	Unknown
E.	D° - - - - - - - - - - - -	4.40	-	1′.	Peter Porter
E.	D° - - - - - - - - - - - -	1.0	-	1′.	Unknown
E.	D° - - - - - - - - - - - -	-	-	-	D°
E.	Kallymeer to Ceyloan, containing Tondy Harbour -	8.56	-	1°.	James Rennel
E.	Kallymeer Road - - - - - -	0.49	-	1′.	D°
E.	Devy Cotah - - - - - - -	13.65	-	1′.	Unknown
E.	D° - - - - - - - - - - - -	4.0	-	1′.	D°
		Yards.			
E.	D° - - - - - - - - - - - -	5.34	to	1000	D°
E.	Bounds of Fort St. David - -	4.66	-	1′.	D°
E.	D° - of Fort St. George -	4.0	-	1′.	Jn. Hoxton, 1733
E.	St. Thomé to Armegon - -	23.88	-	1°.	Capt. Geo. Baker
	Armegon Shoals - - - - -	-	-	-	Black Fiſherman
E.	D° - - Soundings - - -	2.25	-	1°.	Old Drat. unknown
	Coaſt of Choromandel - - -	4.12	-	1°.	Unknown
E.	Devy, and Rivers - - - -	0.40	-	1′.	D°
E.	Coringa Bay - - - - - -	0.57	-	1′.	Phineas Hunt
E.	Narſipore River - - - - -	2.0	-	1′.	Charles Knapton
E.	D° - - - - - - - - - - - -	2.25	-	1′.	Unknown
		Yards.			
E.	Vizagapatam - - - - - -	6.0	to	600	John Seaton

N 7

		Scale. Inches.	By whom.
E.	Podgon Harbour - - - -	None - -	Unknown
E.	D°, called Codgoné - - - -	1.0 -	1'. W.Helman, 1742
E.	Coaſt from Godevar Pt. to Bengal - - - - - - -	3.0 -	1°. H. T. H. ſome Additions

N 8 Bengal.

E.	Bay of Bengal, 3 Parts - -	3.18 -	1°. H. T. H.
E.	D° - N°. Part, with Additions	3.0 -	1°. D° and A. D.
E.	Bengal River, from Hugeley to Calcutta - - - -	2.60 -	1'. Mr. Delamotte Maſt. of the *Kent* N. F. Bakewell Mr. A. Scott
D.	Bengal River - - - - -	- - - -	Unknown
E.	New Channel *out* - - - -	2.04 -	1'. D°
E.	D° and Braces - - - -	0.25 -	1'. D°
E.	Coaſt from Pt. Palmiras to Chittagong - - - -	12.0 -	1°. James Ritchie
E.	Bengal River from Ingelee to Balaſore - - - - -	- - - -	D°
E.	Bomeeny Harbour - - -	0.50 -	1'. D°
E.	Coaſt of Chittagong - - -	0.25 -	1'. Barth. Plaiſted
E.	D° - - - - - - - - - -	15.0 -	1°. D°
E.	D° - - - - - - - - - -	0.25 -	1'. Jerem. Lawrence
E.	Chittagong River - - - -	2.65 -	1'. Barth. Plaiſted
E.	D° - - - - - - - - - -	1.38 -	1'. Unknown
E.	Khaut-Colley - - - -	2.78 -	1'. Barth. Plaiſted

N 9 Pegu-

N 9 Pegu.

		Scale. Inches.			By whom.
E.	Coaſt from Chittagong to Arrackan River, incluſive -	12.0	-	1°.	Unknown
E.	Arrackan River - - - - -	1.0	-	1′.	D°
E.	D° - reduced - - - - -	0.67	-	1′.	D°
E.	Entrance of D° - - - - -	0.35	-	1′.	Jerem. Lawrence
F.	Coaſt from Chittagong to Andaman - - - - -	2.53	-	1°.	Unknown
D.	D° from Bengal to Achen -	2.38	-	1°.	D°
E.	D° from Arrackan to Negrais	6.28	-	1°.	Alexander Wood
E.	D° - d° - - - - - - - -	6.0	-	1°.	Unknown
E.	Arrackan to Strait of Malacca	1.0	-	1°.	Alex. Sibbald
E.	Channel within Chedube - -	12.0	-	1°.	Capt Walter Alves
E.	Part of the Coaſt to the S° of Chedube - - - - -	0.36	-	1′.	Mr. Newlan
E.	Coaſt from Bengal to Negrais	3.0	-	1°.	Compd. H. T. H. and A. D.
E.	D° from Arcomorine to Pagoda Pt.	4.77	-	1°.	Alex Sibbald
E.	Negrais Harbour - - - -	2.0	-	1′.	Thomas Taylor
E.	D° - with *Exeter*'s Rock -	2.0	-	1′.	Supd. a Copy of former
E.	Rough Sketch of Negrais and Porean - - - - - -	7.52	-	1°.	Supd. Capt. Geo. Baker
E.	D° - - and Diamond I. -	0.43	-	1′.	Unknown
E.	Perſaim River - - - - -	0.36	-	1′.	Capt. William Grierſon
E.	D° - - - - - - - - -	0.78	-	1′.	Capt. Geo. Baker
E.	D° - - - - - - - - -	0.76	-	1′.	Alex. Sibbald
E.	D° - - - - - - - - -	None	-	-	Supd. T. Taylor

N 9

		Scale. Inches.		By whom.
P.	S° Coaſt of Pegu - - - -	0.12	1′.	Marinho de Mouro
	D° - - - - - - - - - -	0.12	1′.	Will. Pladwell 1754
	D° - - - - - - - - - -	8.11	1°.	Unknown
	Syrian River - - - - - -	1.0	1′.	W. Pladwell 1760
	D° - - - - - - - - - -	0.86	1′.	Unknown
	D° - - - - - - - - - -	None	-	D°
	D° - - - - - - - - - -	0.69	1′.	D°, A. S. 1758
P.	D° - - - - - - - - - -	None	-	Unknown
P.	D° - - - - - - - - - -	0.86	1′.	D°
E.	D° - - - - - - - - - -	0.45	1′.	Alex. Sibbald
E.	Negrais to Achen - - - -	2.23	1°.	D°
E.	D° - to Andaman - - -	6.07	1°.	Unknown
E.	D° - to Mergui - - -	2.37	1°.	Reeves Woodſon
E.	Tavay River - - - - - -	0.66	1′.	Capt. Palairet
	Mergui - - - - - - - -	6.43	1°.	Friend, 1736
	D° - - - - - - - - - -	6.20	1°.	Unknown
	D° - - - - - - - - - -	12.10	1°.	D°

N 10 Nicobar and Andaman.

	Nicobar Iſlands - - - -	7.56	1°.	Eugenio Ildefonſo
E.	D° - - - - - - - - - -	7.50	1°.	Corrected by H. T. H. 1762.
E.	D° - - - - - - - - - -	7.45	1°.	Robert Lindſay
E.	D° - - - - - - - - - -	4.95	1°.	Norton Nicholls
	D° - and Andaman - -	2.40	1°.	Unknown
F.	D° - - D° - - - -	1.61	1°.	D°

E. Harbour

N 10

		Scale. Inches.	By whom.
E.	Harbour of Noncowré - -	0.75 -	1′. Robert Lindſay
E.	*Ganges*'s Channel through the Andaman Iſlands - - -	9.92 -	1°. Capt. Boſwald, 1759
E.	Ship *Ad. Pocock*'s d° - d° -	6.75 -	1°. Capt. Clough 1764
P.	Old Draught of Andaman -	- - - - -	Unknown

N 11 Strait of Malacca.

D.	Strait of Malacca - - - - -	4.80 -	1°. Unknown
E.	Part of d° - - - - - - - -	5.10 -	1°. D°
E.	D° - d° - - - - - - - -	2.85 -	1°. Alex. Sibbald
E.	N° Part d° - - - - - -	6.0 -	1°. Capt. Geo. Baker
E.	S° d° d° - - - - - - -	6.0 -	1°. D°
E.	Achen to Diamond P - -	6.0 -	1°. D°
	Junkſeylon - - - - - -	0.42 -	1′. Unknown
	D° - - - - - - - - - -	11.35 -	1°. D°
E.	P°. Pinang - - - - - -	0.65 -	1′. Capt. Walter Alves, 1763
E.	Strait of Callong - - - -	0.50 -	1′. D° - 1763
E.	D° - - - - - - - - - -	1.0 -	1′. Capt. Geo. Baker
E.	D° - - - - - - - - -	0.33 -	1′. Com. Wilſon's Snow - 1758
	Siack River, &c. - - - - -	None - -	Unknown

N 12 Teoman

N 12 Teoman to Strait of Banca.

		Scale. Inches.		By whom.
D.	Part of the E. Coaſt of Malaya	3.0	-	1°. Unknown
	D° - - - - - - - - -	2.67	-	1°. D°
E.	Teoman Iſlands, and *Portobello*'s Track to Lingen - -	6.0	-	1°. Capt. Geo. Baker
E.	D° - - - - - - - - -	6.0	-	1°. With Additions by Capt. Alves
E.	Ridang Iſlands - - - -	0.51	-	1′. Capt. Joſ. Jackſon
E.	D° - Harbour - - - -	2.93	-	1′. D°
E.	D° - d°, reduced - - -	1.97	-	1′.
pr. E.	Bay on P°. Teoman - - -	8.74	-	1′. Will. Nicholſon
pr. E.	D° - P°. Wawoor or Aro -	4.0	-	1′. D°
	Teoman to Banca - - -	0.13	-	1′. Unknown
D.	D° - - d°, 2 Sheets -	0.13	-	1′. D° (received from a Chineſe Noquedah)
D.	Banca to Batavia - - -			
D.	Sincapore to Banca - - -	7.46	-	1°. D°
E.	Romania Strait - - - -	2.97	-	1′. Capt. Alves, 1763
E.	Bintang, with the *Royal George*'s Paſſage 1762 - - -	0.33	-	1′. Capt. Nicolas Skottowe
E.	D° - d° - - - - - - -	0.28	-	1′. Unknown
E.	Rheo - - - - - - - -	0.48	-	1′. Mr. A. Scott
E.	Strait of Sincapore - - -	11.92	-	1°. H. T. H.
	D° - - - - - - - - -	14.61	-	1°. Unknown
E.	Barn and Tree Iſland - - -	None	-	- Mr. French
D.	Strait of Sabon - - - -	7.85	-	1°. Unknown

N 12

		Scale. Inches.		By whom.
D.	Strait of Banca - - - - -	18.30	-	1°. Unknown
E.	D° - - - - - - - - - -	11.93	-	1°. Capt. Geo. Baker
E.	Part of d° - - - - - -	23.06	-	1°. Capt. Bowland
pr. E.	*Bute*'s Track through Strait Dryon - - - - - -	11.32	-	1°. Said to be Mr. Vincent
D.	Jamby River - - - - - -	0.33	-	1'. Unknown
pr. E.	Carimata Iſlands - - - - -	6.0	-	1°. Mr. Powell, *Oſterly* 1758
E.	*Porto-bello*'s Track from P°. Mankap to Lingen - -	6.0	-	1°. Capt. Geo. Baker
E.	*Oſterly*'s Paſſage 1759 from Wawoor to Carimata -	3.0	-	1°. Laid down from the Journals
E.	*Hector*'s Paſſage 1759 from S W. Part of Borneo to Anambas	3.0	-	1°. D°
E.	*Walpole*'s Paſſage 1759 from P°. Mankap to the Anambas	3.0	-	1°. D°
E.	*Prince Henry*'s 1759 from Wawoor to Carimata - - -	3.0	-	1°. D°
E.	*Winchelſea*'s Paſſage 1760 d° d°	3.0	-	1°. D°
E.	D° - d° from Wawoor S^d. -	2.20	-	1°. H. T. H.
F.	*Elephant* and *Camel*'s Paſſage 1759	3.0	-	1°. M. d'Aprés
E.	*Royal Charlotte* 1764 from P°. Tayas to Anambas - -	3.0	-	1°. Capt. J. Clement

N 13 Java and Sumatra.

		Scale. Inches.	By whom.
D.	N°. Part of P°. Nyas - - -	None - -	Unknown
E.	St. Leago Bay - - - -	1.97 - 1′.	Capt. Stephen Holloway Bunyan
E.	Verkins Iſland to Sinkell - -	15.05 - 1°.	Capt. Tho. Forreſt
E.	Sinkell River - - - - -	None -	D° (from verbal Information of the Malays)
E.	Sinkell to Natall - - - - -	15.42 - 1°.	D°
E.	Mazular Bay - - - - -	0.59 - 1′.	D°
	Part of W. Coaſt of Sumatra -	10.36 - 1°.	D°
E.	Tappanooly - - - - -	None - -	D°
E.	D° - - - - - - - - -	0.87 - 1′.	Robert Nairne
D.	D° - - - - - - - - -	None - -	Unknown
E.	Natall - - - - - -	1.27 - 1′.	D° 1753 with additions by Com. Watſon
E.	Tico Iſlands - - - ſup$^{d.}$	2.0 - 1′.	Com. J$^{n.}$ Watſon
E.	Priaman - - - - - ſup$^{d.}$	0.20 - 1′.	D°
D.	D° - - - - - - - - -	- - -	Unknown
	D° - - - - - - - - -	0.33 - 1′.	D°
	D° - - - - - - - - -	0.32 - 1′.	D°
D.	Coaſt, &c. near Padang - -	0.86 - 1′.	D°
D.	Ayer-Bongy - - - - -	2.0 - 1′.	D°
D.	Indrapoora - - - - -	0.42 - 1′.	D°
E.	Coaſt from Moco-Moco to Manna	10.33 - 1°.	D°
E.	Bencoolen - - - - - -	0.53 - 1′.	D°

N 13

		Scale. Inches.		By whom.
E.	Pooloo Bay - - - - - -	1.73	- 1′.	Capt. Jos. Jackson
E.	D° - - - - - - - - - -	None	- -	Unknown
E.	D° - - - - - - - - - -	1.83	- 1′.	D°
E.	D° - - - - - - - - -	3.67	- 1′.	D°
E.	D° - - - - - - - - -	1.50	- 1′.	D°
E.	D° - - - - - - - - -	18.0	- 1′.	D°
E.	Rat Island - - - - - - -	- - -	-	D°
E.	Good Fortune and Poggy (or Nassau) Islands - - -	17.60	- 1°.	Capt. Whiteway
E.	Strait of Sekoccup between the *Poggys* - - - - - - -	2.15	- 1′.	D°
E.	D° and Part of W. Coast of N° *Poggy* - - - -	1.0	- 1′.	Capt. Tho. Forrest
E.	Se-Labboo-Labboo on the W. Side of the *Poggys* - -	None	- -	Capt. Whiteway
E.	Hurlock's Bay	1.49	- 1′.	
E.	Se-ooban Bay on Good For-	2.15	- 1′.	D°
E.	Se-Labba Bay tune - -	2.15	- 1′.	
E.	Manna to Croë - - - -	0.41	- 1′.	Unknown
E.	Cawoor - - - - - - - -	0.51	- 1′.	Com. Watson
E.	Sambatt - - - - - - - -	4.42	- 1′.	Unknown
E.	D° - - - - - - - - -	4.50	- 1′.	D°
E.	Croë - - - - - - - -	0.51	- 1′.	Com. Jn. Watson
D.	Strait of Sunda - - - -	0.33	- 1′.	Unknown
F.	Java Head - - - - - - -	None	- -	D°
E.	Mew Bay - - - - - -	4.24	- 1′.	Com. Jn. Watson
E.	D° - - - - - - - - - -	0.99	- 1′.	Unknown

N 13

		Scale. Inches.		By whom.
D.	Bantam Pt. to Batavia - - -	0.40	1′.	Iſaac d'Graaf 1740
D.	D° - - - - - - - - - - -	0.44	1′.	Unknown
D.	Hounds Iſlands - - - - -	1.95	1′.	D°
D.	River Toelan-bawangh - -	4.87	1°.	D°
D.	Batavia - - - - - - - -	1.12	1′.	D°
D.	D° - - - - - - - - - - -	1.12	1′.	D°
D.	D° - - - - - - - - - - -	- - - -		D°
D.	N°. Coaſt of Java - - - -	0.15	1′.	D°
D.	D° - - - - - - - - - -	0.26	1′.	D°
pr. D.	Iſland of Java - - - -	6.94	1°.	Valentyn
D.	D° - - - - - - - - - -	- - -		Unknown
E.	Strait of Madura - - -	10.0	1°.	D°, *Diligent* Snow 1766
E.	Balambuang - - - -	2.0	1′.	Capt. Skottowe
D.	Kyken's Bay on S°. Coaſt of Java	0.42	1′.	Unknown
D.	Potſietam d° - d° - -	2.55	1′.	D°
D.	Vleermuys d° - d° - -	1.18	1′.	D°
D.	Turtle - d° - d° - -	0.64	1′.	D°
D.	Silatoë - d° - d° - -	None	- -	D°
F.	Banca to Batavia - - - -	7.50	1°.	D°
	D° - D° - - - - - - -	5.0	1°.	D°
D.	D° - D° - - - - - - -	8.10	1°.	D°
	Bantam Point to D° - - -	0.47	1′.	D°

N 14 Borneo.

		Scale. Inches.		By whom.
F.	Borneo Iſland - - - - -	2.48	-	1°. D° } Both very bad
pr. D.	D° - - - - - - - - - -	1.46	-	1°. Valentyn } Both very bad
D.	S° Part D° and Strait of Macaſſar	2.41	-	1°. Unknown d°
E.	S° Coaſt from T. Salatan to P°. Mankap - - - - -	6.0	-	1°. Capt. Geo. Baker
E.	Pater-Noſter Iſlands - - -	10.0	-	1°. Com. Jn. Watſon

N 15 Eaſtern Iſlands.

D.	A Set, in ſeveral Sheets, from Strait Sunda to New-Guinea	4.42	-	1°. Obtained by Com. Wilſon of *Pitt*
D.	Some other Sets of Charts of the ſame Seas - - - - -			

Beſides theſe Sets I have got

D.	Strait of Boeton - - - -	16.60	-	1°. Unknown
E.	D° - - - - - - - - -	17.76	-	1°. Com. Wilſon in *Pitt*
E.	D° - - - - - - - - -	0.48	-	1′. D. Williams in *Pitt*
D.	Part of Ceram and Bouro -	11.17	-	1°. Unknown
D.	Malucos and W. Coaſt of Iilolo	15.76	-	1°. D°
D.	Sumbawa, &c. - - - - -	- - - -		D°
P.	D° - - - - - - - - -	10.27	-	1°. D°
P.	Timor, &c. - - - - - -	- - -		D°
P.	D° - - 1754 - - -	5.59	-	1°. D°
P.	Strait of Solor - - - -	- - - -		D°
D.	D° - - - - - - - - -	0.29	-	1′. D°

D. Part

N 15

		Scale. Inches.		By whom.
D.	Part of N° Coaſt Sumbawa -	0.39	1′.	Unknown
D.	Sumbawa Road - - - - -	0.76	1′.	D°
D.	Strait of Lombok - - -	0.21	1′.	D°
E.	Strait of Bally - - - - - -	18.35	1°.	Mr. Scott
E.	Samanap on Madura - -	0.25	1′.	H. T. H. 1760
E.	D° - - - - - - - - - -	0.25	1′.	Mr. Powell in *Oſterly*
E.	D° - to Lubek - - - -	6.0	1°.	D°
E.	S° Coaſt of Sumbawa and Strait Lombok - - - - - -	- - - -		D°

N 16 Magindanao.

S.	S° Coaſt of Magindanao - -	None	- -	Unknown
S.	S. W. Coaſt of D° - - -	D°	- -	D°
S.	Magindanao Iſland - - -	D°	- - -	D°
S.	D° - - D° - - - -	7.75	1°.	Norton Nicols
S.	D° - - Bay - - -	0.37	1′.	D°
S.	Caldera Bay - - - - - -	2.56	1′.	D°
S.	Sketch of Cagayan Bay & River	None	- -	Unknown
E.	*Royal Captain*'s Track along the N° Coaſt of Magindanao	2.50	1°.	Capt. Tanner
E.	D° - - - - - - - - - -	2.52	1°.	Mr. Greer 3d Mate
S.	Panguil Bay & adjoining Coaſt	None	- -	Unknown
S.	D° - - - - - - - - - -	0.40	1′.	D°
S.	St. Maria Harbour - - -	- - - -		D°
E.	Siargao Bay - - - - -	0.45	1′.	Mr. Greer

N 17 Phi-

N 17 Philipinas.

			Scale. Inches.		By whom.
pr. S.	Chart of the Iſlands, &c.	- -	1.52	1°.	Admiral Romero, 1727, very bad
pr. S.	General Chart	- - - N 1.	3.0	1°.	Padre Murillo Velarde Manila, 1734
	Additional Soundings to D°	-	3.0	1°.	Unknown
pr. F.	D°	- - - - - - - - - 2.	1.72	1°.	M. Bellin, altered from Murillo for the worſe
S.	D°	- - - - - - - - 3.	5.50	1°.	Unknown
S.	D°	- - - - - - - - - 4.	3.0	1°.	D°
S.	D°	- - - - - - - - - 5.	3.0	1°.	D°
D.	D°	- - - - - - - - 6.	3.0	1°.	D°
D.	The Southern Iſlands	- - 7.	2.44	1°.	D°
pr. S.	Map of the Iſlands	- - 8.	1.12	1°.	Fr. Gaſpar 1659
pr. S.	D° - - D°	- - - 9.	1.40	1°.	Padre Murillo 1744
pr. S.	Northern Iſlands	- - - -	3.0	1°.	Anſon's Voyage
S.	D°	- - - - - - - - -	3.13	1°.	Antonio Gil
S.	Coaſt of Tayabas	- - - -	0.31	1'.	Roxas and Galves
S.	Capaluan	- - - - - - -	None	- -	Don Man[l]. Galves
S.	Camarines	- - - - - -	None	- -	Unknown
E.	Port St. Jacinto	- - - - -	1.32	1'.	D°
S.	Embocadero, &c.	- - - - -	9.68	1°.	D°
S.	D°	- - - - - - - - -	0.35	1'.	D°
E.	D°	- - - - - - - - - -	0.66	1'.	D° *Panther* Man of War
S.	Sorſogon	- - - - - -	None	- -	Unknown
S.	Naga	- - - - - - - - -	0.90	1'.	D°

S. Siſiran

N 17

		Scale. Inches.		By whom.
S.	Sifiran	0.60	1′.	Unknown
S.	Sifiran Harbour	1.10	1′.	Don Manl. Galves
S.	Palapa dº	1.10	1′.	Dº
S.	Lampon dº	0.65	1′.	Dº
S.	Coaft of Valer	None	-	Unknown
S.	Nº. End of Luzon and Babuyanes	5.50	1º.	Gafpar
S.	Chief Ports on the Coaft of Ylocos	0.70	1′.	Unknown
S.	Dº dº	0.33	1′.	Dº
S.	Port of Salomague	1.63	1′.	Don Manl. Galves
S.	W. Coaft of Luzon	6.56	1º.	Unknown
S.	Subic	None	-	Dº
pr. E.	Manila Bay	1.0	1′.	W. Nicholfon
S.	Cavité	None	-	Unknown
S.	Coaft of Limbones	1.38	1′.	Dº
S.	Strait of Mindoro	0.23	1′.	Dº
E.	Nº. Coaft of Dº	0.65	1′.	Dº
E.	Batangas Bay	0.50	1′.	Capt. Brereton

N 18 Japan and Formofa.

D.	Formofa to Japan	2.57	1º.	Unknown
D.	Dº	2.50	1º.	Dº (received from a Chinefe quedah)
D.	Nangafaqui Harbour	0.55	1′.	Dº (received from a Chinefe quedah)
D.	Dº	0.63	1′.	Dº
D.	Coaft of Yetfo, &c.			

N 19 China

N 19 China and China-Sea.

			Scale. Inches.			By whom.
pr. F.	Canton River		0.14	-	1′.	Du Halde
	D°		0.51	-	1′.	Capt. Lake
pr. F.	D°	Entrance	0.15	-	1′.	M. Bellin
E.	Typa					Capt. Geo. Baker
E.	St. John's		None	-	-	*Hartford* 1731
E.	Lemas to Honghai		0.51	-	1′.	Capt. Geo. Baker
E.	Meru and Viado		None	-	-	Unknown
E.	London's Channel from Linting to *Eastward*		0.50	-	1′.	Capt. Walt. Alves
P.	N 1.	I^ds. at Mouth of Canton R.	9.77	-	1°.	Unknown
E.	2.					Supp^d. C. Veitch
	3.		8.92	-	1°.	M. Nash
P.	4		9.94	-	1°.	Unknown
P.	5.		9.86	-	1°.	D°
	6.		9.83	-	1°.	D°
D.	N° Part of China Seas		2.57	-	1°.	1677 Unknown. with Additions by Capt. Alex. Hamilton
	The S° Coast of China		None	-	-	Unknown
	Hayling Bay					
	Tienpe Bay					
P.	Fokai Bay		0.66	-	1′.	Felis Mendoza
D.	E. Coast of China, 2 Parts		6.89	-	1°.	Unknown
D.	D°	from 22°. N. to 25° N.	7.0	-	1°.	D°
D.	D°	25 - - 30	7.30	-	1°.	D°
E.	S. E. Passage of Chusan		1.73	-	1′.	C. James Swithin
E.	Kittow Point to Limpo		0.39	-	1′.	Mr. Wallis
E.	Limpo River		1.95	-	1′.	D°
E.	Chusan Harbour		1.0	-	1′.	D°
pr. D.	Hockseu		15.81	-	1°.	Bellin

N 20 Hainan, Cochin-China, &c.

		Scale. Inches.	By whom.
Swed.	S. E. Coaſt of Hainan - -	0.42 - 1′.	Capt. Charles Guſtav. Ekberg
F.	Yulin-kan Bay on S°. Coaſt d° - - - -		*Camel* and *Elephant* 1760
D.	D°, called Aynco, - - - - - - - - -		Unknown very bad
pr. E.	Bay of Tonqueen - - - - - - - -		Samuel Baron
E.	Tonqueen Bar - - - - - -	0.68 - 1′.	E. Walſh
P.	Turon Harbour - - - - - -	0.55 - 1′.	Unknown
D.	D° - - - - - - - - - -	0.15 - 1′.	D°
E.	D° - - - - - - - - - -	0.50 - 1′.	Capt. Bromfield
	Coaſt of Tſiompa and Camboja	2.50 - 1°.	Unknown
D.	D° - D° and Gulf of Siam	2.50 - 1°.	D°
Swed.	P°. Condor - - - - - - - -	0.55 - 1′.	D°
E.	Part of D° - - - - - - - -	1.40 - 1′.	D°, an old Dra^{t}.
P.	Cancao - - - - - - - - -	9.85 - 1°.	D°
P.	D° - - - - - - - - - -	9.92 - 1°.	D°

N 10 Palawan and Karang-Bander.

S.	Dalawan, on Balabac - - - - - - - -		Unknown
S.	Ypolote, on Palawan - -	4.20 - 1′.	D°
F.	Spectacles, or Triangles - - - - - - -		*Amphitrité*
	Paracels - - - - - - - - - - -		Cochin-Chineſe Pilot
			E. Plata

N 21

		Scale. Inches.	By whom.
E.	Plata or Prata Shoal - - - - - - - - - -		Blair
	D° - - - - - - - - - -	None - -	Unknown
P.	D° - - - - - - - - - -	None - - -	D° - - 1743
S.	D° - - - - - - - - - -	None - -	Gaſpar
S.	Palawan, &c. - - - - - - -	7.27 - 1°.	D. Pedro Coſeo 1762 execrably bad
S.	Pachiri on Dumaran - - -	None - -	D°, from Gaſtambides

N. B. E. is Engliſh. F. French. D. Dutch. P. Portugueſe. S. Spaniſh. pr. printed.

The ſeveral Copies of *Van Keulen* being conſiderably different, I have added a Liſt of the collection in my poſſeſſion, as it contains *all* the Charts I have ſeen in different copies.

General, Cape to Japan
Cape to Terra de Fumos,—Bay St. Helena—Bay St. Braz
Table Bay
Cape to Terra de Fumos
Saldanha Bay to Falſe Bay
Views of Cape
D°
D°
Bay Algoa
Mozambique Channel to 10°.—S°.
Bay Delagoa—Moſſel Bay
Mozambique
Views of Madagaſcar
Tullear - - - - - Manumbagh
Quelimanie - - - New Maſſalege
Views of Baxos de India—Maliqué—Maldivés and Ceyloan
Coaſt of Zanzibar and Iſlands from 10°—S°
Comoro Iſlands, &c.
Mayotta - - - - Johanna
Coſmoledo - - - - Mohila
Strait of Babelmandel
Mocha
Red-Sea
Ports in Red-Sea
General, Arabia to Decan
Gulp of Perſia - - - Kiſmiſs Channel - - Muſcatt
Surat

Surat River
Bombay
Mallabar Coaſt
Cranganor Mud-bank
Maldivés and part of Ceyloan
Port Cayl - - Tutacoreen
Batacaloa Coaſt
D° - River
Colombo
Venlos Bay - Aporetotte
Pt. du Gale - Calpentyn
Nillwille - - Trincomalay
Ceyloan
Iſlands under the line
Aria-Atol
Pedro Banhos - - Chagos
Diego Rais - - - St. Brandon
S. E. Harbour of Mauritius
Mauritius - - NW. Harbour
Cocos Iſlands
Weſt-Coaſt of New-Holland
Houtman's Abrolho - *Views* of St. Paul's, Amſterdam and Swarte Swan River on Ct. New Holland.
Chromandel Coaſt
Pulicat - - Tegnapatam
Bengal
D° - river and ſands
General, Pegu, &c.
Views in Strait Malacca
Iun kſeyloan
Views of Mergui -

Sumatra

Sumatra, &c.
Achen
Views of W. Coaſt Sumatra
Padang
Little Fortune Iſland and Engano
Strait of Sunda
Java
Views of Java
Batavia
Straits of Sunda and Banca
Views Banca to Malacca
Strait Banca, Sincapore, &c.
S° part China Seas
Padaran - - Condor
Tonqueen and China
Macao Iſlands
Views of China
D°
D°
Formoſa and China
Amoy
Formoſa to Japan
Views Coaſt of China and Japan
Pehou or Piſcadores
Nangaſaqui
Plata
Chuſan
Philippin Iſlands
Manila Bay Bongo Bay on Mindanao
Borneo.

E S S A Y

ON THE MOST

COMMODIOUS METHODS

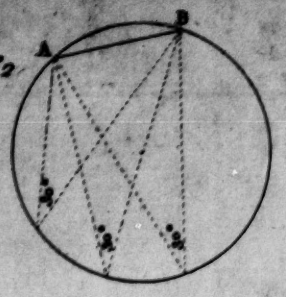
OF

MARINE SURVEYING.

LONDON:

Printed in the Year MDCCLXXI.

f.2



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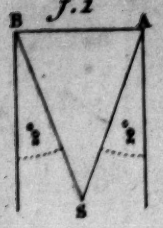

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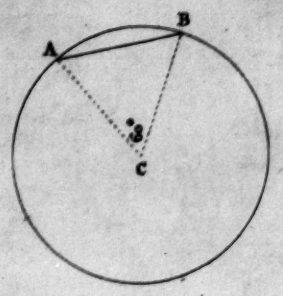

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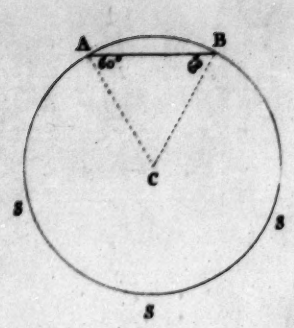

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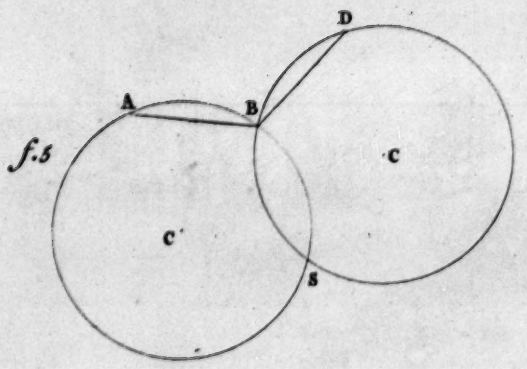

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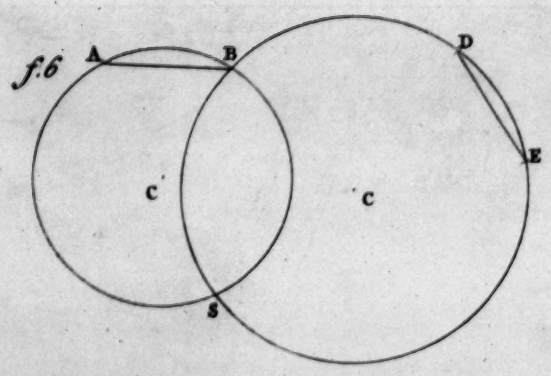

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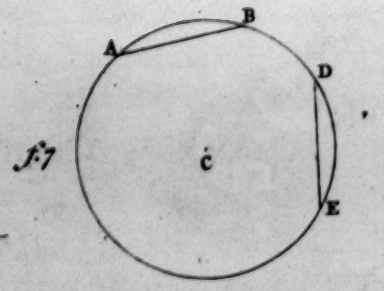

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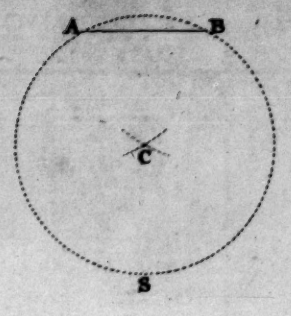

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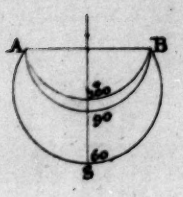

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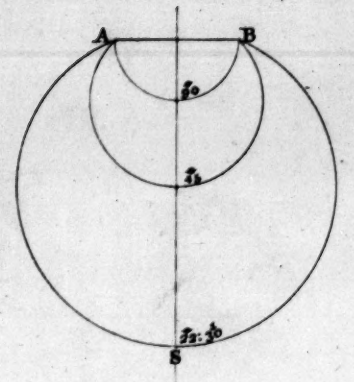

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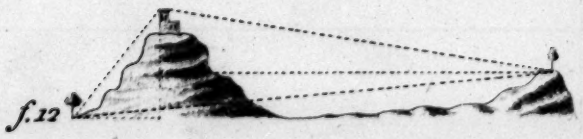

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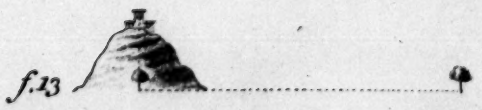

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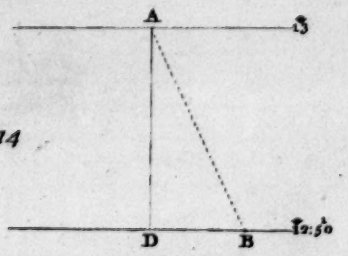

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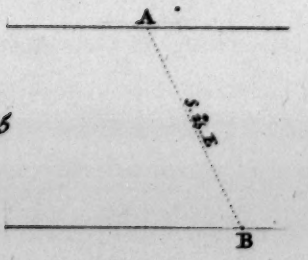

ESSAY

ON THE

MOST COMMODIOUS METHODS

OF

MARINE SURVEYING.

IT often happens that People are prevented from making any Obſervations of the Lands they ſee, from a Perſuaſion that they ſhall not have Opportunity to make Obſervations ſufficient to form even a Sketch of theſe Lands, and therefore that their Labour would be *in vain*. Others are prevented by *Diffidence*; but moſt are, from Negligence or Ignorance, remiſs in the Obſervations requiſite to compleat the Art of Hydrography. The Intention of this Eſſay is to aſſiſt and exhort the Former; to encourage the Diffident; to ſhame the *Careleſs*, by ſhewing *with how little Trouble* uſeful Obſervations may be made; and to inſtruct the Ignorant in the Practice of a few uſeful Rules.

It is poſſible nothing *new* may be found here; it is, however, imagined, ſome Things *uncommon* will be met with, and others diſpoſed in their proper Place, inſtead of being *loſt* in the Heap of practical Queſtions.

Experience has fully convinced me, that Bearings, taken by *Compaſs*, cannot be ſafely truſted to, in making a correct Draught. I have found not only a Difference of 3° or more in different Compaſſes, but in the *ſame Compaſs* at different Times: I do not ſay the *Effect* had no *Cauſe*, but there was no ſenſible one which I could diſcover: And I have heard other People ſay, their Obſervations gave room to believe, there is a *caſual Deviation conſequent to the State of the Atmoſphere, or ſome other occult Influence.*

Sometimes the Obſervations made with the Compaſs will correſpond very well with each other; it is not therefore my Intention to condemn the Uſe of it entirely; but if the Sea be rough, it is very troubleſome taking many Bearings by the Compaſs, as it requires much Time to be ſure the Compaſs ſtands true; ſo that the Uſe of the Compaſs, beſides other Inconveniencies, is attended with Delay, whereby the Lands loſe their reciprocal Situations, and by this Means, being as it were taken from different Stations, if the Objects be near, the Angles do not coincide in plotting the Draught. Beſides, the Rigging and Sails often intercept the Sight of the Objects from the only convenient Part of the Ship where the Compaſs can be placed.

Hadley's Quadrant is as much preferable to the Compaſs for taking Angles in Facility, as Exactneſs. In the common Obſervation for finding the Latitude, the Quadrant being held upright, the Index is ſlided forward till the Image of the Sun, by Reflection, touches the Horizon ſeen by direct Viſion: For taking Angles, the Quadrant is held horizontal, and one Object by *Reflection* brought, by moving forward the Index, to coincide with another ſeen by *direct Viſion.*

If the Compaſs could be relied on, Bearings taken by it have one Advantage over the Angles taken by Quadrant, *viz.* That theſe Bearings, being the Angles from the Magnetick Meridian, are eaſily laid down by the Meridian in the Chart; for ſuppoſing A to bear N 20° E and B, N 20° W from an unknown Station; laying off the reverſed Bearings S 20° W from A, and S 20° E from B, the Interſection would give the Station, which cannot be found by *two Objects* with any other Inſtrument; all Inſtruments for meaſuring Angles, except the Compaſs, requiring *three* Objects to determine the Station: Indeed, the *North* Point of the Compaſs may be conſidered as a *third* Object when this Inſtrument is uſed.—The Compaſs is alſo very uſeful in ſetting Points as they come *in one*; but there are many Occaſions when a Compaſs cannot be uſed with any Accuracy, where a Quadrant is extremely commodious and equally exact. Fig. 1.

All Compaſs Obſervations made in Boats are liable to great Objection; the Motion of a Boat will ever prevent Exactitude in Compaſs

paſs Bearings, and the Extremities of Shoals and the Depths in intricate Channels, (for determining which, Boats are uſually employed) require the minuteſt Exactneſs. In ſuch Caſes, the Uſe of the Quadrant removes every Difficulty; for if the reciprocal Situations of any *three* Objects are known, the Compaſs Bearings are not neceſſary; and if there are not *three* Objects which can be uſed for this Purpoſe, the Bearing of the Boat may be taken from the Ship on making a Signal; and this, reverſed, will give the Bearing of the Ship from the Boat, which may then uſe the Ship as an Object, and lay off the other Angles equally, as if they could have been taken exactly by Compaſs.

All Bearings or Angles of very near Objects are liable to Incertainty from the Sheering of the Ship, as that Alteration will make a Difference in the Poſition of *very near* Objects. Obſervations made in Boats at Anchor are leſs liable to Error, as the Change of Place is ſmaller; and either in a Ship or Boat, the Obſervations made by Quadrant will be more exact than thoſe by Compaſs, as performed more expeditiouſly.

In Surveying, the *real Diſtance* is the direct Diſtance from one Place to another; the *apparent Diſtance* is the Angle under which two Objects are ſeen. The moſt uſeful Problem in Surveying is, "to "find a *Station*, by obſerved Angles of three or more Objects, whoſe "reciprocal Diſtances are known, but Diſtance and Bearings from "the Place of Obſervation unknown."

Two objects can only be seen under the same angle from some part of a *circle* passing thro' those objects and the place of observation. Fig. 2.

If the angle under which those objects are seen be less than 90°. the place of observation must be somewhere in the *greater Segment*, and those objects will be seen under the same angle from every part of that Segment.

If the angle under which those objects are seen be more than 90°. the place of observation will be somewhere in the *less Segment*, and those objects will be seen under the same angle from every part of that Segment.

The angle under which two objects appear in the *greater* Segment will be as much *less* than 90°. as the angle under which those objects appear in the *less* Segment is *above* 90°.; and consequently the angle under which those objects appear in the *less* Segment will be as much *more* than 90°. as the angle under which they appear in the *greater* Segment is *less* than 90°.

The angle at the Center is always double the angle at the Circumference of the greater Segment. Fig. 3.

And consequently if two objects A B be seen under an angle of 30°. from some unknown station S; these objects will be seen under an angle of 60°. at the Center of a Circle passing through A B and S. Fig. 4.

If the two objects A B are seen under an angle greater than 90°. they will appear from the Center under the angle which double the angle observed wants of 360°. Ex: suppose Angle observed 150°. double 300°. taken from 360°. remains 60°. the angle at Center.

The three angles of a plain Triangle are equal to two right angles or 180°. and therefore the difference between 180°. and the angle at the Center will be the ſum of the two other angles.

Fig. 4. Ex: Take the difference between the angle at Center C (ſuppoſe 60°.) and 180°. and *half* that difference will be the ∠ B A C = 60°. or ∠ A B C = 60°.—Or

Take the difference between the angle obſerved and 90°. and that difference will be the ∠ B A C or ∠ A B C; which angles laid off from A and B the interſection will be the point C which is the Center of a Circle paſſing through A B and S.

As the ſtation S. muſt be ſomewhere in this Circle, it is therefore obvious, if the ſame operation was repeated with the angle
Fig. 5. under which are ſeen two objects whoſe reciprocal ſituations to A and B are known, that the interſection of this Circle with the former would give the point of obſervation S.

Fig. 5. One of the objects A or B may be uſed in the ſecond operaFig. 6. tion, but it may be performed by two new objects D E.

If *two* known objects be ſeen in *one* line, the ſtation from whence they are ſeen may be found by *one* angle made by them and ſome other object, for having drawn the Circle correſponding to this angle (as deſcribed fig. 4) a line drawn through the *two* objects ſeen in *one*, will interſect the Circle in the ſpot where the Station falls in the ſame manner as another Circle would. (Fig. 5.)

But if the three or more objects are in the ſame Circle, there
Fig. 7. will be no ſolution, as the Center will be a common Center to both Circles; and therefore no Interſection to determine in what part of the Circle the point S will fall—

It

It muſt alſo be obvious, that in uſing four objects, the two Circles will interſect each other in two places, but there can be no difficulty of determining which Interſection is the Station.—

Although this is a very ſimple ſolution of the problem by Projection, I think the following by the Logarithm Tables is preferable.

As Sin. Half ∠ at Center
To Half the diſtance between the two objects A B
So is Radius
To A C or B C

This diſtance laid off from A and B, by a Scale of equal Parts, the Interſection will be the Point C, which is the center of a Circle paſſing through A B S. Fig. 8.

Mr. Michell, in a paper on this ſubject, ſays, if the line drawn from A to B, be *biſected* by an *indefinite* Right line *perpendicular* to A B; the *Tangent* of the Angle between the *obſerved Angle* and 90°. laid off on this *indefinite Line*, from the point of *Biſection*, will on that Line give the Center of a Circle paſſing through A B and S, or Place of Obſervation. Fig. 9. It muſt be obvious if the obſerved Angle be 90°, the Point of *Biſection* will be the Center of *the Circle*; if the Angle obſerved be leſs than 90°. the Tangent muſt be laid off on the *indefinite line* ſo that the Segment ſhall come *without that Circle* —if the Angle obſerved is more thad 90°. the Tangent muſt be laid off on the other ſide of the Line A B ſo that the Segment may come *within that Circle*.— Fig. 9.

This Method of Mr. Michell's appears preferable to all others, becauſe the Centers of the Circles or Segments correſponding to every obſerved Angle are eaſily deduced, after the firſt Operation *of drawing the indefinite Line perpendicular* to A B, by marking on this *Line* the Tangent of the Angle. between the Angle obſerved and 90°.; whereas in the other Modes, the ſame Operation is to be performed to find a Center

Center to every Circle without any Aſſiſtance being derived from the former Centers found. Beſides, in Mr. Michell's, having found the Center to the Segment of one Angle, the interſection of the indefinite Line by that Segment, gives the Center of a Segment correſponding to Half that Angle. Thus the *Point*, where the Segment of 90°. interſects the *indefinite Line*, is the Center of a Segment of 45°. or *Half the Angle*; where the Segment of 45°. interſects the *indefinite Line*, is the Center of a Segment of 22°. 30′, &c. and therefore if the difference between the Angle obſerved and 90°. be more than the ſcale of Tangents contains, find the Center to double the angle obſerved and the point where the Segment from that Center cuts the indefinite line will be the Center of the Segment required.—

Fig. 10.

It has been already obſerved, that no inſtrument is ſo commodious for taking Angles as Hadley's Quadrant. It is uſed with equal Facility at Maſt-head as upon Deck, and therefore the ſphere of Obſervation is by this Inſtrument much extended. For ſuppoſing many Iſlands are viſible from Maſt-head, and only *one* from Deck, no uſeful Obſervations can be made by any other inſtrument; becauſe Compaſs Bearings from Maſt-head can only be taken very vaguely, and a ſmall Error in the Bearing of a diſtant Object, makes a great Error in its Poſition; but by the Quadrant the Angles may be taken at Maſt-head from the *one* viſible Object with the utmoſt Exactneſs. Beſides, taking Angles from Heights, as Hills, or a Ship's Maſt-head, is almoſt the only way of exactly deſcribing the Extent and Figure of Shoals.

It has been objected to the Uſe of Hadley's Quadrant for Surveying in general, "that *it* does not meaſure the *horizontal* Angles, by which *alone* a Plan can be laid down." This Objection however *true* in *Theory*, may be removed in *Practice* by a little Caution, which, in the obſervations made from *Heights*, is very requiſite. If

If an Angle is meaſured between an Object on an Elevation, and another near it in a Hollow, the Difference between the *Baſe*, which is the horizontal Angle, and the *Hypothenuſe*, which is the Angle obſerved, may be very great; but if theſe Objects are meaſured not from each other, but from ſome very diſtant Object, the Difference between the Angles of each from the diſtant Object will be very nearly the ſame as the horizontal Angle. Beſides, a Correction may be made by meaſuring the Angle, not between an Object on a Plane and an Object on an Elevation, but between the Object on a Plane, and ſome Object in the ſame Direction as the elevated Object, of which the Eye is ſufficiently able to judge.

Fig. 11. Fig. 12. Fig. 13.

In deſcribing Shoals from an Elevation, the greateſt Attention to this Matter is requiſite; but it is ſo obvious in Practice, that Nothing more than a Caution on the Subject is neceſſary.

The Horizon being an equidiſtant Line, the reciprocal Diſtances may be found by the Depreſſion of the Horizon to Objects ſeen within it.

Although Hadley's Quadrant will ſhow, by the Depreſſion of the *Horizon*, the reciprocal Diſtances, it will not give any Data for laying Places down; which, however, may be done by a *Land Quadrant*, as the Level gives a *parallel* Line to the Surface of the Sea, to which the Zenith will be at Right Angles, and the Angle of Depreſſion of the *Horizon* and other Objects will inter-

ſect the *Line* of the *Surface* of the Sea at the Diſtances where theſe Objects lie; for meaſuring which Diſtances, the perpendicular Elevation of the Place from whence the Obſervations are made, will be a Scale; and this *Elevation* will be ſhewn by the *Barometer*.

For this Purpoſe a Card with a graduated Circle, and the Diameter divided into equal Parts, will be very uſeful for marking on the Spot where Objects fall. This Card will alſo be very uſeful in determining the Extent of Objects from their Bearings and Diſtances, in which the Eye is generally miſtaken, by ſuppoſing the Extent greater than the Angle will admit, particularly in the Extent of Breakers.

As an Example of the Method of expreſſing the Angles taken by Hadley's Quadrant, I ſhall give thoſe taken from the Top of the Iſland *Corejidor*, at the Entrance of Manila Bay, as a Proof how very near the Sum of all the Angles will be to 360.°, even where the Objects are very much out of the horizontal Plane; for although the Elevation of *Corejidor* above the Sea is very conſiderable, and the Altitudes of the Objects obſerved very unequal, and ſome of them greatly depreſſed under the Horizon, the Sum of the Angles is only 0°. 15′ or ¼ of a Degree deficient of the compleat Circle 360°.

As

As the Object by Reflection is uſed for ſeveral Angles, I mark it *, and ſet down the obſerved Angles to the Right and Left as below:

* 1ſt Limbones Ears *per* Compaſs S. 23° ½ E.

R 36°. 30′ Fortun * 5th	*L* 48°. 10′ Pº. Cavallo * 2d
* 5th Fortun	* 2d Pº. Cavallo
R 71. 20 Monja per Compaſs W 5° S.	*L* 91. 45 Cabcaben Point * 3d
107. 50	* 3d Cabcaben Point.
251. 55	*L* 90. 40 Dolphin's Noſe * 4th
359. 45	* 4th Dolphin's Noſe
360. 00	*L* 21. 20 Monja
0. 15 Deficient.	251. 55

I have not inſerted any Angles here but ſuch as were uſed for continuing the Obſervations. As the Quadrant will not meaſure more than 90°, it is requiſite when it will meaſure no further to change the Line of Obſervation, which I mark * 2d, * 3d, &c. In this Example the Angles are all ſet down juſt as they were *obſerved*, except that between *Limbones Ears* and *Fortun*, the Angle meaſured from *Fortun* was not to *Limbones Ears* but to *Fraile*, which was 49°. 30′; but as *Fraile* was found to be from *Limbones Ears* 13. 00 the other Way, the Difference of theſe two Angles 36. 30 muſt conſequently be the Angle from *Fortun* to *Limbones Ears*.

I ſhall not give any further Example, but obſerve that it is not only ſatisfactory but uſeful, to continue the Angles round the Circle;

cle; becauſe if the Sum of all the Angles does not amount to 360°, it points out an Error in ſome of the Angles of thoſe Objects uſed as Lines of Obſervation.

It is further to be obſerved, that neither a *near Object* nor a *low* Point ſhould ever be uſed as a *Line of Obſervation*; for the Difference of Refraction of the Air, or the Elevation and Depreſſion of the Ship by the Tide, or even by the *Send* of the Sea, will change the latter, and, conſequently, make the whole Chain of Angles, taken from this *fluctuating Line of Obſervation* diſagree; and the Sheering of the Ship will have the ſame Effect in the former Caſe.

The beſt Object for an Obſervation Line is a *ſharp Peak*, a *bluff Point*, or any *remarkable* Thing at a *Diſtance* which can at all Times be certainly diſtinguiſhed.

Having now diſcuſſed the Uſe of the Quadrant, I ſhall briefly mention ſome other Matters which, though extremely uſeful in Practice may not occur to every one.

The Baſis of all Surveying is in determining a Diſtance; for unleſs ſome Baſe is found, or *aſſumed*, no Chart can be made.

It very ſeldom happens that there is an Opportunity of meaſuring ſo a long Baſe *aſhore* as to be uſeful in conſtructing a Chart; but the *Reſult* of ſmall Triangles from a ſhort Baſe, will form one with ſufficient Exactneſs. This Method, though obviouſly preferable to Obſervations merely from Ship-board, is not recommended in any

Treatiſe

Treatiſe of Marine Surveying, which may, perhaps, ariſe from a Preſumption that it would naturally occur. It is, however, liable to Exception where the Coaſt is low or circular; it is alſo impracticable where the Coaſt is in a direct Line, unleſs there be remarkable Lands *in-Shore*: However, in all Coaſts which have deep Trenchings or Iſlands in the Offing, and, conſequently, amongſt Iſlands it is very commodious.

There is a very eligible and convenient Method of ſurveying a River, particularly where there is Ground to imagine Offence might be taken at any open Remarks, *viz.* by *Warps*, whoſe Length being known gives a Baſe. A like Method is uſeful in determining the Extent of ſmall Shoals, by letting-go a Grappling on the Extremity, and veering away till the Boat reaches the other End.

But the beſt Method of meaſuring Diſtances for Hydrographical Purpoſes is by Sound. The Rate of the Motion of Sound is by the moſt accurate Obſervations determined to be 1142 Engliſh Feet in a *Second* of Time, or 6120 Feet, which is a Nautic or Geographic Mile in $5''\frac{1}{3}$ nearly; ſo that making a Half-Second Pendulum, with a Plummet at the End of a Thread of 9 Inches $\frac{8}{10}$, each Stroke will be equal to 571 Feet; which multiplied by the Number of Strokes from ſeeing the Flaſh or Exploſion till hearing the Report, will give the Diſtance in Feet. In ſmall Diſtances this Method is not preciſe enough, for it is obvious no leſs Diſtance than 571 Feet can be diſtinguiſhed; but in conſiderable Diſtances, as 2 to 5 or 6 Miles, it is ſufficiently exact. For as 2 Miles are equal to 12,240 Feet, the Amount of *one Stroke*

is not $\frac{1}{21}$ Part of the Diſtance, or $\frac{1}{10}$ of a Mile difference in 2 Miles; and in larger Diſtances the Difference is ſtill ſmaller. It is moſt expedient to take the Report of ſeveral Guns to prevent any Miſtake. This Method may be very uſefully employed in meaſuring a Baſe between *two* Veſſels, who, taking the Bearings at one Time of each other and the ſame Objects, will determine their Poſitions with the utmoſt Exactneſs; and the Baſe may be proved by both Veſſels firing, and the Perſons a board each afterwards comparing their Eſtimations of Diſtance.

There is another Method which has its Uſe, where a *ſingle* Veſſel is on a Coaſt, *viz.* by making the *Obſerved Latitudes* a Baſe, on a Coaſt not very devious from Meridional, the Tranſient Bearing † of the Points, &c. and the Latitude obſerved, will determine the Poſition with ſufficient Preciſion. This Method will be fully explained by an Example.

Fig. 14.

A when it bore E was found by an Obſervation of Latitude to lye in	13°. 0′N
B was ſet in one with it, S 25°. E	
B when it bore E 2°. N. was found by an Obſervation to lye in.	12. 50 N.
Difference of Latitude or *Side* AD=	00. 10.

The

† By *tranſient Bearing* I mean when two Objects come in one Line.

The N° or S° Line which marks the Difference of Latitude between A & B muſt be at right Angles to the Parallel of Latitude of the laſt Object; and therefore in the Triangle are given *Side* AD= 10.

∠ DAB= 25°. 00′.
∠ ADB= 90. 00.

115. 00
180. 00..

∠ ABD= 65. 00.

Fig. 14.

Then as ∠ ABD 65°. 0′. : AD 10′. :: Rad. : AB.

Or it may be laid down by the Bearing S 25°. E. laid off from A till it interſects the other Parallel of Latitude, which is the Point B. Fig. 15.

It is here to be obſerved, that the Bearing muſt be the *true*, not the *magnetick*.

It is evident the reverſed Bearings of any known Object, not near the *Parallel*, will determine a Station by interſecting the Latitude obſerved, and that the Interſection of Bearings from *two ſuch Stations* determines, as nearly as Bearings by *Compaſs* can determine, the preciſe Place of every Thing they lay down. But this Method, which requires an uninterrupted Series of *obſerved Latitudes* and *tranſient Bèarings*, is only to be uſed by a Perſon in *coaſting*. Different Eyes, different Inſtruments,

ments, and various Accidents, make Obſervations of Latitude too precarious Data for general Uſe, though extremely convenient in running down a Coaſt where the Points are prominent, where there are Iſlands in the Offing, or remarkable Lands in-Shore. But a Coaſt may be ſo formed that a very ſmall Diſtance ſhall open one and ſhut-in another Point, and conſequently the Number of neceſſary *Obſervations* of Latitude become almoſt infinite. In ſuch a Coaſt, if there be no Iſlands or remarkable Lands to continue the Series, the Method is ſcarce applicable. The ſame Inconvenience in ſome Meaſure attends low Shores, as they confine each Day's Run to the Diſtance the Eye can reach. Tho' this Method be eligible in a Coaſt nearly *Meridional*, it becomes leſs exact as the Coaſt diverges from this Direction, and at laſt is of no Uſe.

Capt. Plaiſted's Practice of uſing, for determining the Courſe and Diſtance in *Soundings*, a Lead inſtead of a Log to his Line (the ſtray Line correſponding to the Depth of Water) ſeems to be a good Method of correcting the Log.

Middleton, who was employed in the N W Diſcovery, mentions his being accuſtomed to try the Current when laying-to under a Main-ſail: The Hudſon's Bay Ships commonly try it in eaſy Weather by a current Log. " This is a Quadrant of a Circle about 30 " Inches diameter, ſlung like a common Log with Lead let into the " Circle Rim ſufficient to ſink it; then at the Diſtance of 70 or 80 " Fathom on the Line is faſtened a Cork, or any light Thing that will " ride the Log that is ſunk, and to this Buoy the Line is to be faſt-

" ened

" ened, as in common Uſe to the Log, with ſufficient ſtray Line to go " clear of the Ship or Boat, the Remainder of the Line being " marked as the Log-line, it will be eaſy to determine the Ship's " Courſe by the Bearings of the *Float*, and the Line gives the Diſ- " tance †".

It is neceſſary to take Care that the Line on board does not check the Float, but this is equally neceſſary in uſing the common Log. The Hudſon's Bay Ships uſe a Stone Bottle for the Float.

This Method gives the Ship's *Drift*, but does not ſhew what is the Direction and Velocity of the Current. For determining this; Middleton informed me, he, at the ſame Time, hove the Common Log, and by it found the Ship's Courſe and Diſtance without any Allowance for Current, and, conſequently, the Difference of the two Meaſurements is the Current. He alſo told me that his Log-reel had braſs Cogs.

Perhaps Nothing is more eaſy or more exact than this Method; but in Juſtice to Middleton's Memory I muſt ſay, I never heard of any Body elſe uſing it. In his Publications he does not explain what Means he uſed, but very freely communicated his Method of Practice to me, on a Viſit I made to him for this Information.

There is another very uſeful Method of correcting the Log in ſight of Land, which firſt occurred to me on the Coaſt of Celebes, in

1761, *viz.* by the Bearings of the Land An Example will render this familiar.

At Noon—An Iſland A. bore	——	E	34°.	30′ S.
Rock B, —	——	E	20.	30 S.
Courſe per Log to Noon following		E	11.	00 S.
A. then bearing	——	E	55.	30 S.
B. ——	——	E	15.	00 S.
The Courſe made good was evidently between ——	——	E	34.	30 S.
And —	— —	E	20.	30 S.

(inſtead of E 11° S. as per Log); for

A. now bearing 21°. more to the Southward than before, the *Courſe* muſt have been *leſs Southerly* than its Bearing —	— —	E	34.	30 S.
Rock B. bearing now only —		E	15.	00 S.
or 4°. 30′. *leſs Southerly* than its former Bearings, evinces the *Courſe* to have been *more Southerly* than its Bearings ——	——	E	20.	30 S.
Suppoſe at the firſt Noon C. bore and to have the ſame Bearings at the ſecond Noon, it would ſhew the Courſe to have been		E	25.	00 S.

but even ſuppoſing no Object remained in the ſame Bearings, the eſtimated Diſtances would ſhew nearly the *true Courſe*, by a Compariſon

pariſon of the Alteration of the Bearings of the different Objects. This Method purſued will give the Courſe very nearly exact; for, if ſeveral Objects be ſet, it may be poſſible to determine the Courſe to as great a Preciſion as Hydrography requires; and if the Courſe be well determined, the Bearings taken from frequent Stations will, with Care and repeated Trials, work themſelves right. For this Purpoſe it is recommended to repeat the ſeveral Bearings every Hour, by which Means the Number of Stations will greatly facilitate the Reſult. It is not neceſſary to take more than *one* Bearing from each Station by Compaſs; the other Angles may be taken by Quadrant.

And here it may be proper to obſerve, that the Angles taken by Quadrant are uſeful, although the *reciprocal* Situations of the Objects whoſe Angles are taken be not known; as theſe Obſervations may be made Uſe of, whenever the reciprocal Situations of thoſe Objects are found. I mention this chiefly with a View to *Soundings*, as a very little Trouble taken with the Boats of every Ship which paſſes the Straits of Malacca, &c. would afford Materials to conſtruct a very accurate Chart; although from not knowing the exact Situations of any Places in thoſe Straits, and a general Want of Attention, notwithſtanding the many Ships which paſs them annually, there is ſcarce any Improvement made in the Charts.

I think it would be very uſeful in Hydrography, beſides the Chart deſcribing the *Coaſts*, *Soundings*, &c. to have one, on the ſame Scale, of *Lines* and *Points* only. For, as it is almoſt impoſſible in a Chart to have every Place or Sounding fixed with equal Preciſion, it is certainly expedient

expedient to ſhew upon what Authority every Part is determined.

1. I would have the *Data* for determining the ſeveral Stations marked by *ſtrong Black Lines*.

2. The Bearings from theſe Stations for determining the ſeveral *Points* or Objects in *faint* Black Lines.

3. The *Points* or Objects whoſe Situations are determined with the utmoſt Preciſion I would mark *.

This kind of Chart would enable any one to lay down their Stations and Soundings to be transferr'd into the other Chart, that it might be compleated and corrected.

The Obſervator ought to be very minute in his Soundings, taking, if he can, the Angles by Quadrant of *three* * Objects, ſeparated from each other at leaſt 20°. If one Bearing be taken by Compaſs, it will facilitate the Projection; but if the Soundings be of conſequences it will be moſt eligible to project them from the Angles taken by Quadrant only: The ſame to be obſerved in determining or correcting the Situation of any remarkable Point unaſteriſked. If *three* proper * Objects cannot be had for determining any Station, *more* than *three* unaſteriſked Objects ought to be taken; and, in general, it is to be obſerved, the greater Number of Angles are taken, the greater will be the Probability of Exactneſs.

It

It muſt be obvious the Things requiſite to compleat ſuch a Chart would be,

1. Obſervations to corroborate or correct unaſteriſked Points, that they might be *.

2. Obſervations to complete the Soundings.

3. Obſervations to determine the Situation of Places not before laid down.

All require great Care, but none ſo much as the Obſervations to * an Object, as an Error here might induce many by uſing this Object for determining other Stations.

F I N I S.

MEMOIR

OF A

CHART

OF THE

CHINA SEA.

MEMOIR

OF A

CHART

OF THE

CHINA SEA.

BY

ALEXANDER DALRYMPLE, ESQ.

LONDON:

Printed in the Year MDCC LXXI.

MEMOIR

OF A

CHART

OF THE

CHINA SEA.

Scale, One Inch = 1°.

THIS Chart extends from *the Equator* to 24°. — N° Latitude, and from the Longitude of 13°. — W to 5°. — E a *Bangaey Peak* [Long. 104°. 17′ to 122°. 17′ E a *Greenwich.*] the following ſituations are the baſis on which it is formed:

Places.	Latitude.	E. Long. a Greenwich.	Authority. N. B. Thoſe marked * are from Aſtronomical Obſervations.
*Macao	22°. 19′ N	113° 46′ —″	Con. des Temps
Grand Ladron	22. 02 —	113. 56. —	A D a Macao
*Manila	14. 39 —	120. 52. —	M. Le Gentil 5 Eclipſes, Jupiter's 1ſt. Sat.
Goat Iſland	13. 55 —	120. 02. —	A D a Manila
*Tulyan	5. 57 —	121. 14. 30	A D 5th Oct. 1762, Eclipſe Jupiters's 1ſt Sat.
Temontangis	5. 57 —	120. 53. 30	A D
Banguey Peak	7. 18 —	117. 17. 30	A D { a Tulyan / a Goat Iſland only 0°. 14′ different.
Balabac Peak	7. 57 —	117. 15. 30	A D
Keeney Balloo	6. 02 —	116. 42. 30	A D
Mangalloom	6. 10 —	115. 37. 30	A D
*P°. Sapata	10. 00 —	108. 17. —	Mr. Will. Brown 1767. ☾ and Antares
P°. Condor	8. 40 —	105. 56. —	D° - - - - 1767. ☾ and ⊙
P°. Wawoor *vulgo* Aro.	2. 30 —	104. 35. —	D° - - - - 1767. Mean. of 3 Obſ. 104. 35 } ☾ and ⊙ 104. 28 } 104. 57 ☾ and Antares
Souroutou	1°. 43′ S°.	108°. 09′	a P°. Wawoor, mean of ſeveral Journals.
P°. Mankap	3. 03	109. 35	D° - { C. Howe 109°. 27′ / C. Clements 109. 43 } Mean 109°. 35′

The Tracks were adjuſted by theſe *given points*, and the intermediate ſtations determined by *this General Rule.*

Long. per Journal: Long. per Chart:: Long. of each Station per Journal: True Long. of that Station.

Theſe Tracks are,

	Year.	Veſſel.	Commander.	Voyage.	From whom receiv'd.
S — } S H }	1752	Sea Horſe	Thomé Gaſpar	Goat Iſland to Borneo	Gaſpar
C S —	1759	Cuddalore	George Baker	Timoan to Gr: Ladron	A D
E C —	1759	{ Elephant / Camel }	M. Winſlow / M. Omrat	Sourotou to Douglas	M. d'Aprés
G ——	1759	Ganges	Peter Duncan	Goat Iſland to P°. Aro	C. Boſwald
C ——	1761	Cuddalore	Alex. Dalrymple	Banguey to Timoan	A D
L ——	1762	London	D° - - - -	P°. Aro to Banguey	A D
E — } F — }	*1762	{ Eſſex / Falmouth }	George Jackſon / William Brereton	Condor to Goat Iſland / D° - - - - -	India H°. Journals / C. Brereton
Ln. —	1763	London	Alex. Dalrymple	Banguey to P°. Aro	A D
N ——	1763	Neptune	Gabriel Steward	P°. Aro to Mangalloom	A D
Lnd.—	1765	London	Walter Alves	Banguey to P°. Aro	C. Alves

* Theſe two ſhips were *in company* till paſt the *Meridien* of *Banguey*, notwithſtanding the very great difference in their Tracks.

The

The *St. Eſprit* Iſlands and *Weſtern Anambas*, are from a variety of Journals and ſome Engliſh MSS Draughts, theſe authorities will be particularly explained in the *Draught* (which I intend hereafter to publiſh) of *that Part*, on a Scale of *three* inches to *one* degree.

The *Northern Anambas* and the *Natunas* (except the *two* ſmall detached Iſlands) are laid down from my own obſervations; the *Natunas*, ſo far as they are deſcribed, are, I preſume, pretty exactly; the *Anambas* very roughly: The two *Northern Natunas* are laid down from the Ganges's Journal, which agrees pretty well with Capt. Hallet, who ſaw them in the Hardwicke 1744.

The *Iſlands* between the *Natunas* and *Borneo* are reduced from a Chart ſent to me by M. d'Aprés; this Chart was laid down from obſervations made in the Elephant and Camel 1759. The *ſituation* of the *Coaſt of Borneo* is alſo from this Chart, but the *Coaſt* is *delineated* from a Sketch made by Dato Saraphodin, a Sooloo Prince.—The large Bay, within *Tanjong Dato*, is alſo from him; the Coaſt from hence to *Tanjong Baram* is from an old Draught in the Britiſh Muſeum.

From *Tanjong Baram* to *Borneo-proper* incluſive, is from a Chart of Thomé Gaſpar de Leon, who commanded a Ship from *Manila* to *Borneo* in 1752.

The Coaſt of *Borneo*, from hence to *Unſang*, and the *Sooloo Archipelago* are from my own obſervations, with ſome aſſiſtance from the Sooloos and others.

The Coaſt of Borneo from *Unſang* Southward to *Kanneeoongan*, is from a Sketch of Dato Saraphodin, and one of Noquedah Koplo, a Javan Chineſe: The reciprocal ſituation of *the two Extremes*, from my own Journal. The Iſlands *See-Ameel*, *&c.* are from ſome obſervations of C. Bromfield in the Admiral Pocock 1764. The Iſlands to the S E of *Dumaring*, and

towards *Kanneeoongan*, from the obſervations of Com. John Watſon in the Revenge 1764. *Kanneeoongan* from my own obſervations in the Cuddalore 1761.

The *Weſt Coaſt* of *Palawan* is a reduction of the Chart I have publiſhed of this Coaſt from my own obſervations.

The *Eaſt Coaſt* and *two Shoals* to the *Weſtward* of *Palawan*, are from a Spaniſh Chart made by order of Don Antonio Faveau 1753. But this Chart is very inacurate where I have been, particularly in the Latitudes; I have heard from one of their moſt intelligent Pilots, that the Spaniards, of Manila, commonly take the wrong day's Declination of the Sun, as they differ from the other Europeans in India one day in their *reckoning* of *Time*, by having come thither *Weſtward*.

The general Poſition of the *Calamianes* and *Northern Part of Palawan* is from my own obſervations; but theſe were not circumſtantial enough to permit a particular delineation of them.

Manila Bay, *Goat Iſland*, &c. the *North* and *Weſt Coaſt* of *Mindoro*, the *Weſt Coaſt of Pany*, with the *Cuyos*, are laid down from my own obſervations, with ſome aſſiſtance from other materials.—The *Eaſt Coaſt* of *Mindoro* from Faveau's Chart.

The Coaſt of *Lukonia*, from Manila *Northward*, is from ſundry materials which do not require diſcuſſion in a *General Memoir*.

I have laid down the *Figure* of the *two Northern Shoals* from Van Keulen, as he appeared more circumſtantial than any of the Spaniſh Charts. Admiral Gonſales Cabrero-bueno, who has publiſhed ſome Inſtructions for the Navigation of theſe Parts, agrees with him in the diſtance of the *Northern Shoal* from *C Bolinao*;—but I have never met with any very

diſtinct

diſtinct account of theſe Shoals amongſt the Spaniards, who ſeem to know as little of them as we do.—

It has been generally ſuppoſed the Scarborough 1748 ſtruck on *one* of *theſe Shoals*, but it is apparent to me, this is not the caſe: The Scarborough's Shoal was again ſeen in 1755 by the Aſſeviedo, a Spaniſh ſhip going from *Macao* to *Manila*; I have placed this *Shoal* according to the Spaniſh account, which is above 20 Leagues more to the *Eaſtward* than the Scarborough makes it, by the run from the *Shoal* to the *Gr. Ladron*, in which run they were only *ſeven* days; by the run from *P°. Sapata* to the *Shoal*, the Scarborough made it above 40 Leagues more to the *Weſtward* than I have placed it, though by my ſituation it is 60 Leagues from the neareſt part of the *Coaſt* of *Lukonia:* At the ſame time, I was aſſured at Manila by M. Allegré, a Frenchman, that he had ſeen the two *Northern Shoals* which lay N N W and S S E from each other, and that the *Southern* of the *two* was not above 12 or 14 Leagues from *the Coaſt*.

The *Babuyanes* and *Baſhees* are laid down from my own obſervations in 1759.

The *Pratas* are chiefly laid down from Van Keulen's Plan, collated with Blair's Journal. I find, by ſome other Memorandums, ſince it was engraved, that this Shoal is of greater extent than I have made it.—Mr. Dennis in the Lyell, places it in 20°. 5′ N°. and C. Williams of the Hector 1759, ſays, the *Iſland* is in 20°. 46′ N. I agree exactly to his Longitude; I have never ſeen the deſcription of this Shoal by the *Swedes*, who loſt a Ship there a few years ſince, and therefore thought it was not neceſſary to eraſe the *preſent* till I could get a *compleat* deſcription of it; particularly as C. Williams and Mr. Dennis's reports ſeem to be irreconcileable.

Where

Where I had no materials of my own, I have followed the Jeſuits Map in deſcribing *the Coaſt of China*; the ſoundings are from obſervations in the Cuddalore 1759 and 1760.

The Aſſeviedo on the 17th May 1755, in the ſame voyage from *Macao* to *Manila*, diſcovered another *Shoal*, which they named *St. Eſprit*. M. Simon Boutet, the Pilot, had laid down his Track in the *Neptune Oriental*, which, after his death, fell into the hands of Mr. Pinon, who very obligingly communicated it to me at Manila in 1763. The Spaniards report that it has *ſhoal* water; this is very conſonant to the information of Captain David Sanders of the Groſvenor, who paſſed over the *Eaſtern* Part in 1765, having $6\frac{3}{4}$ Fathom, and, as he aſſured me, ſaw ſeveral Spots which appeared like *ſhoal* water; the ſituation I have given it from M. Boutet agrees exactly with Captain Sanders's Journal.—C. Le Lond in a French Indiaman 1763, had 8 Fathom on it; but although he agrees in *Latitude*, he places it more to the *Eaſtward*, and and deſcribes it as a *ſmall ſpot*, whereas Capt. Sanders's ſailed *two Miles* upon it, after he diſcovered the ground, on a N N W courſe, he does not know how long they had been on the Bank before they perceived the ground.—*This Shoal* lying ſo much in the fair-way of ſhips, early in the ſeaſon ought to be carefully examined: The extent I have given it is according to M. Boutet's Draught; but perhaps it was laid down larger than the truth for the ſake of perſpicuity.

The Macclesfield appears of much greater extent N°. and S°. than hitherto deſcribed; I have laid it down from the Journals of the Fort St. David, a Country-ſhip in 1752, (their firſt Soundings in 15°. 17′ N, the laſt in 16°. 10′ N), the Griffin 1749, the Cuddalore 1759, and Horſenden 1768. The figure and extent of this Bank, much to the reproach of our Navigators, is not yet known; I have met with no accounts

of

of ſhallow water on it, but, it is reported, a Macao Ship in 1747 had three Caſts 5 Fathom; and I have ſeen a *Rock* marked in an old MSS Draught, which belonged to Captain Alexander Hamilton, who has publiſhed his obſervations in India.

The E. of Lincoln 1764 made ſome part, as they ſuppoſd, of the *Triangles*; but as the Lincoln only made 6°. 30′ E from hence to the *Coaſt* of *Lukonia* in 17°. 30′ N, which is above 20 Leagues leſs than the truth; I cannot place theſe Dangers farther to the *Weſtward* than I have done, although this is much farther *Eaſtward* than *any part* of the *Triangles* is uſually laid down.—I find by an antient Memorandum, that formerly another ſhip made them nearly in the ſame ſituation as the Lincoln, but neither the year nor ſhip's name are mentioned; it appears however to have been Mr. *Dennis*, whoſe obſervation of the *Pratas* is already mentioned. I have ſeen a Memorandum which aſcribes this to the Lyell 1727, but I find by the Regiſter of the Company's Ships, the Lyell was not in the China Seas that year.—Theſe diſcoveries of the Lincoln deſerve to be particularly examined.

I have inſerted the *Triangles* from a Plan of them made in the Amphitrité, a French Frigate, which carried the Jeſuit Miſſionaries to China; I have laid them down according to the ſituation of the Admiral-Pocock, Country-ſhip, in 1764, which ſaw the S E *Breakers*.—The Plan of the Amphitrité evinces, that it could not be the *Triangles* which the Lincoln ſaw, as her track after leaving the Iſland would have been directly over the *Eaſtern Shoals*.

The *Paracels* are laid down from a Plan made by a Cochin-Chineſe Pilot, I obtained a copy of this and the Amphitrité's from Gaſpar at Manila; I found the *Southern Iſlands* of the *Paracels* agree tollerably with the obſervations of ſome Engliſh ſhips;

Ships, by whoſe accounts I determined their poſition with reſpect to P°. *Sapata*.

The poſition of *The Brothers* from P°. *Sapata* is from Captain Vincent in the Oſterly 1766, agreeing with the Hector Captain Williams 1759, and Mr. Horſley in the Glatton 1764.

The poſition of *C. Ceçir* and P°. *Ceçir de Mar*, is from the Princeſs Auguſta 1765.

I have traced the Coaſts of *Hainan* and *Cochin-China* very faintly, as I did not mean any confidence ſhould be placed in this Chart, for the *inner Paſſage*, not having hitherto laid down theſe coaſts from my own obſervations.

The *Andrade* was ſeen by the Eſſex coming from China 1760; it is a Rock juſt above water.—The *Breakers* were alſo ſeen by the Falmouth, in company with the Eſſex, going to *Manila* 1762.

The *Middleburg* was ſeen by M. de la Placeliere in the ſhip Le Paix, 23d January 1753, returning from *China*, he ranged it at the diſtance of a cable's length from the *Eaſt* ſide, it appeared to be a cable's length and a half in extent, the Sea broke now and then on it.

The extent of the *Bank*, on which the Prince of Wales had Soundings in 1755, is unknown; they had 14 Fathom, but ſaw no appearance of *ſhoal* Water.

The *China-Sea* is ſo full of *Banks* and *Shoals*, that the utmoſt caution is ever neceſſary, even in the frequented tracks, but a ſhip can ſcarcely leave them without being almoſt certain of ſeeing ſome Danger; I have laid down all thoſe ſeen by ſhips whoſe Tracks I had, but have omitted many laid down in MSS Charts, becauſe, as thoſe Charts are very erroneous, it is impoſſible to transfer them with tollerable preciſion: I have however inſerted ſome from a MSS Portugueſe Chart, viz.

viz. *Two Banks* near the Latitude of 7°. N, a *Bank* of 4 Fath. in 8°. 25′ N, another of 5 Fath. in 8°. 33′ N, and a *Vigie* in 11°.—N, as theſe lye in the fair-Way.

The ſame Difficulty, of aſſigning the true Poſition, has prevented me from laying down the *low Iſland and two Reefs*, which the *Neptune Oriental* Places in 11°.—N; but by the following Memorandum, which M. d'Aprés very obligingly communicated to me, its Latitude is 10°. 42 N.

The Sieur Goſſard in 1741. " In 11°. 24′ N Lat. MD " 6°.—′ W a *Luban* had 9 Fathom *rocky*.

" From hence having run W S W 110′, ſaw *a ſmall Iſland* " with *two Reefs*, where the Sea *broke*, which bore S S W " about 4 Leagues.

" Lat. of *theſe Reefs* 10°. 42′ N, MD a *Luban* 7°. 46′ W.

" Having made a Courſe S W 1°. 20′ S. 154′—D L 112′ S°. " Dep. 106′ W, ſaw a *ſmall Reef* about ¼ League in Length " from E to W on which the Sea *broke*; at the *Weſtern* Point " of *this Reef* had 7 Fath. *rocky*.

" Lat. 8°. 58′ N MD a *Luban* 9°. 32′ W.

" *This Reef* bears from the *Iſland* with *two Reefs* " S W 0°. 20′ S 146′ —".

This Iſland has generally been ſuppoſed to be what is laid down N E b E from Sapata; but all the Portugueſe Charts deſcribe this *not as an Iſland*, but *Vigie*, which I conceive means a *ſunken Rock*, they differ very much from each other in the poſition of it.—It has been alledged the Montague and D. of Cambridge ſaw this in 1723, I have examined their Journals and think it a dubious matter.—Capt. Gordon of the Montague has left this day *blank*, I ſuppoſe he *intended* to give ſome particular account, and *forgot* the omiſſion; Another Journal ſays,

" 2d July 1723, about 2 PM. ſaw a Sail to the S E ſtand-
" ing as we do.

" About 4 we ſaw ſomething diſtant from him.

" At 5 was very cloudy, and though not above 3 Leagues
" from it, yet could make no certain Judgment of it, ſome-
" times it ſeemed like a Veſſel overſet, then immediately
" altered; 'Twas a moderate Height out of the Water, and
" conclude it a *Rock:* It lies in 11°. 4′ N, and bears from
" the Catwicks N E b E 47 Leagues.—When it bore E S E
" 3 Leagues, no Ground 200 Fathom."—It appears to me, from this Deſcription, to have been a *Drift*; they had no Obſervation the preceeding Noon, ſo that the Latitude is only *by Account* from *Sapata*.——Two Journals of the D. of Cambridge take no Notice of it, C. Daniel Small calls it a *ſmall Rock*; and ſays, it bore S E 2 Leagues at 5 P M, the two Ships Journals differ amazingly in their run from *Sapata*, from whence both Ships take a Departure; the D. Cambridge 1ſt July at 5 PM, bearing N°, the Montague at 6 P M, bearing N N W ½ N 5 Leagues C°. to 7 N E 5 K (by the Cambridge's Log) when the Montague Journal ſays " *Sounded* 110 *Fath.* " *fine blue Ouze.*"

		C°. and Diſt. a P°. Sapata	D L	Dep.	Lat. A	M D a P°. Sapata
1ſt July.	D. Cambridge	N 47°. E 140	— 97′ N	— 102. E	11°. 5′ N	1°. 26′ E
	Mantague D°	E 36. N 104	— 60.	— 48.	10. 50.	

2d. C°. to 5 P M { Cambridge Log } N E 11 K. 4 F.
N E B E 15. 2.

So great a diſcordance, in the accounts, and incertainty in the fact, will be a ſufficient ground for omitting this *ſuppoſed Rock.*

The

The *two Shoals* of *Breakers*, ſeen by the Hardwicke, are laid down in ſome Spaniſh Charts nearly in the ſame ſituation.

Having now given a general account of *this Chart*, I ſhall only add that my *chief* intention in conſtructing it, was to explain the *ſituation* of *Balambangan with reſpect to the adjacent parts*, and to point out what Nautical Examinations were moſt immediately neceſſary from thence.

APRIL 1771.

MEMOIR
OF
THE CHART
OF PART OF THE
COAST OF CHINA,
AND THE
ADJACENT ISLANDS
NEAR THE
ENTRANCE OF CANTON RIVER.

CONTAINING

OBSERVATIONS in the Schooner CUDDALORE
In 1759 and 1760.

And in the Ship LONDON, 1764.

With Several VIEWS of the LANDS.

BY

ALEXANDER DALRYMPLE, ESQ.

LONDON:

Printed in the Year M DCC LXXI.

ERRATA.

Page 2.	Line 4.	For 22°. 13′¾	Read 22°. 14′
	8.	From Bottom 22. 19¾	22. 20
3.	7.	D° L Ext. Wungboo	r. R. Ext. Wungboo
5.	4.	D° 15. —	r. S° Peak of Gr. Lemas 15. —
7.	4.	Col. A. —.	4. —
	16.	- E 9. 30	r. E 9. 30 N
11.	3.	Wungboo Peak	r. Peak of Pack-leak-low
13.	17.	Longſhitow	r. Longſhitow, i
16.	7.	From Bottom Alt. o. 30	dele
24.		For ⊙	r. O
		K F	K F
		In laſt Log at 9 H For N 1. 5	r. N 1. 3
27.	7.	From Bottom - - - 21°. 40′	21°. 30′
28.		- - - - - - - For ⊙	r. O
		⊙	r. O
29.	1.	- - - - - - - - 69°. 50′	r. L 69°. 50′
30.	1.	- - - - - L 1ſt. Ext.	r. L Ext. 1ſt.
36.	13.	- - - Variation o°. 11′ W	
40.	11. 16	- - Chang-chow	r. Chong-chow
	12.	- - - Nokow-chow	r. Nakow-chow
41.	1.	Before R Ext. E. Botow	r. Soundings 7½ Fa. Sand
	3.	N°. Entrance - - - -	5¾ Sand
	2.	- For S° Extreme	r. S° Entrance
46.	14.	For R Ext. * 2d	r. R Ext. (*2d)
48.	3.	For 33°. 35′	
		Read 33. 35 L Ext. Long D° -	5
		32. 35 Peak on Lantao Iſland	6
		27. 30 E Peak Lantao - -	7
51.	12.	a	dele
	19.	For L Ext. *2d	r. L Ext. (*2d)
53.	12.	From Bottom, for an	r. and
54.	5.	For R Reef Iſland and L Great N° Singan ½ diſt.	
		r. R Reef Iſland ½′ diſt. and L Gr. N° Singan	
57.	9.	from Bottom for 60. 19	r. 60. 15
58.	10.	D° - for as it	r. as theſe
59.	4.	D° - - for E 10°. —′ N	r. E 10°. —′ S

MEMOIR

OF

THE CHART

OF PART OF THE

COAST OF CHINA.

OMISSION.

View N° 13. At ½ past 11 AM 6th May, 1760,
21 Fath. Mud.

1.	Single Island	N 17.—	E
2. 3. 4.	Island to Northward of Ditto	12.— 8.— 4.—	
5. 6.	Tonneang	N 1.— 8.—	W

View N° 15. 4th May, 1760, At Anchor in 17 ½ Fath.

1.		N 35.—	E
2.		42.—	
3.		45.—	
4. 5.	Lo Chow	47.— 48.—	
6. 7.	Pootoy	49.— 52.—	

MEMOIR OF A CHART

OF THE

COAST OF CHINA AND THE ADJACENT ISLANDS

FROM

PEDRO-BLANCO TO THE MIZEN.

THIS Chart is, almoſt entirely, laid down from my own Obſervations; having omitted thoſe Parts of the Coaſt, for which I had nothing of my own, and faintly ſketched ſuch Parts as I could not minutely deſcribe: I have indeed made uſe of a few Bearings of Captain Baker in the Schooner Cuddalore 1759, aboard of which Veſſel I then was, but theſe are chiefly for determining the ſoundings.

As an explanation of the Chart, I ſhall give a particular Recital of the Materials from whence it was determined, diſtinguiſhing it into *Three* Parts, viz.

1. From *Macao* to the *Gr. Lema* on the *South* of *Lantao*.
2. From *Pedro-Blanco* to the *Gr. Lema*.

3. From

3. From *Lantao* to *Boca-Tigris.*

1. From *Macao* to *Gr. Lema* on the *South* of *Lantao.*

This Part is chiefly laid down from the following Stations,

Stat.

1. On Cabareta Point Lat. Obs$^{d.}$ 22°. 14′ N per Chart 22°. 13 ¾ N from whence the View N°. 1. was taken 14th February 1760.
2. On the higheſt Hill of the Iſland which forms the *Eaſtern* Side of the Entrance of the Typa coming from Macao, called Kai-ke-ong, 21ſt Sept. 1760.
3. On the Peak of the Iſland, which forms the *Weſtern* Side, called Toi-koke-tou, 22d Sept. 1760.
4. 30th April 1760 at anchor in 4 ¾ Fath. S°. of Cabareta Point.
5. 15th April 1760 Lat. Obs$^{d.}$ 22°. 6′ ½ N per Chart 22°. 5′ N to the Southward of Montania.
6. 16th April 1760 Lat. Obs$^{d.}$ $\left\{\begin{matrix}22°.\ 9'\ \frac{3}{4}\\ 22.\ \ 5\ \frac{3}{4}\end{matrix}\right\}$ per Chart 22°. 5′ ¼ N S°. of Potöe.
7. 2d May 1760 S°. of Wungboo at anchor in 8 ½ Fath.
8. 21ſt April 1760 at anchor in 6 Fath. off Samcocke.
9. 18th April 1760 at anchor in 4 ½ Fath. Lat. Obs$^{d.}$ 22°. 20′ ¼ N per Chart 22°. 19′ ¾.
10. 19th April 1760 at anchor in 4 ½ Fath. Lat. Obs$^{d.}$ 22°. 20′ ½ N per Chart 22°. 19′ ¼—View N°. 2.
11. 3d May 1760 at anchor in 14 Fath. off the Gr. Ladron View N°. 6.
12. 4th May 1760 at anchor in 17 ½ Fath. off the Aſſes Ears Lat. Obs$^{d.}$ 22°. 5′ ½ N per Chart 22°. 2′ ¼.
13. 5th May 1760 Sunſet

Stat.

14. 5th May 1760 a little before Noon.
15. 18th November 1764 at anchor in 6½ Fath. off Lamma Lat. Obsd 22°. 20′ N per Chart 22°. 18′ N View N°. 5.
16. 19th November 1764 aſhore on Cowhee—View N°. 4.

2. From *Pedro-Blanco* to the *Gr. Lema.*

The chief Materials for this Part are the London's Journal in 1764 and the Views belonging to it; ſome Soundings are added from the Cuddalore 1759 and 1760, but the Lands are laid down from Obſervations in the London.

3. From *Lantao* to *Boca-Tigris.*

This is entirely from the Obſervations and Views taken aboard the London in November 1764.

St. 1. On Cabareta Point 14th February, 1760.

View N°. 1.

S°. Peak of Montania		S 40. 40W	Alt. 1°. 25′
Extreme of Montania		35. 20	
C Potoe	1. R Ext.	S 20. 30E	
	2	21. —	
	Peak	21. 30	Alt. 0. 24
	3. L Ext. & R Ext. z, in Chart	22. —	
Higheſt Part or Middle of z		27. 30	
R Ext. Gr. Ladron		29. —	
L Ext. z		29. 30	
L Ext. Wungboo, a, in Chart		31. 30	
Peak of Gr. Ladron		33. 30	Alt. 1. 1
L Ext. Wungboo		38. 30	
1. Small round Iſland b in View and Middle of the next Iſland		42. 40	
2.		44. —	
3.		46. 20	

4. Peak of Pack-leak-low,	y,	S	49. 10 E	Alt. 0. 37
5.			51. —	
6.			51. 30	
7.			56. —	
8. Chook-chow,	w. v,		58. —	Alt. 0. 20
9.			59. 30	
10.		E	21. 25 S	
11. Tailow-chow,			17. 30	
12.	c,		16. 45	Alt. 0. 42
13.			15. 15	
14.			10. 20	
15. Saddle - Tailock,	d,		9. 30	
16. Higheſt Part			— —	Alt. 0. 30
17.			7. 30	
18.			6. 30	
19. Chuctaan,	h,		5. —	Alt. 0. 12
20.			4. —	
21. Chichow,	q,		3. 30	Alt. 0. 30
22. R Ext. Longſhitow,	i,		3. 10	
23. Sylock,	e,		0. 30 EAST / E 0. 30 N	Alt. 0. 18
24. Peak of Longſhitow			0. 30	Alt. 0. 36
25. L Ext. D° and R Ext. Samcoke,	f,		3. 30	
26. Peak of D°			5. 40	Alt. 0. 32
27. Saddle of D°			6. 10	
28. L Ext. D°			9. 45	
29. Gap of Laf-ſammee,	l,		11. 30	
30.			15. —	
31. Chang-chow,	g,		16. —	Alt. 0. 31
32.			16. 30	
33. L Ext. m, and Lantao Peak			20. —	Alt. 1. 25

This

This, being one of my firſt Views, may perhaps have leſs Similitude to the Lands, than ſubſequent ones after much Practice, but it will convey a tollerable Idea of the Iſlands.

The following Bearings were taken when Lantao had not ſenſibly altered the Bearings but they were not viſible from the former Station.

Lintin R Ext.	E	49. 50 N
Peak		53. —
L Ext.		55. 45
Outermoſt of the *Nine* Iſlands		73. —

☉ 54°. 25′ + 16′ − 7′ = 54°. 34′ Z D 35°. 26′. Decl. 13°. 12′ Lat. 22°. 14′ N.

Stations 2. 21ſt Sept. 1760, on Kai-ke-ong A
3. 22d on Toi-koke-tou B

		A		B
z	R Ext.	S	35. —	E
z	Peak		39. —	
z	L Ext.		42. —	
c	Potoe,		42. —	
	Gr. Ladron Peak	S 37. 30 E	43. —	
	D° L Ext.		46. —	
	Iſland — — Ears	E	30. —	S
	L Ext.		29. 30	
	Iſland — — Ears		28. —	
	L Ext.		25. —	
	Rock		23. —	
	Part of Great Lemas		18. —	
			15. —	
u	I-tſow — — R Ext.		17. 30	
	Gap or Peak		16. —	
	L Ext.		14. 30	

			A	B
w v	Chook-chow - -	R Ext. -	E 34. — S	E 29. — S
		Ears - -	33. — -	28. —
		L Ext. - -	31. —	
y	Pack-leak-low -	Peak - -	S 50. 30 E	33. —
		L Ext. - -	52. —	
		Rock off it -	52. 30	
c	Tailow-chow -	L Ext. - - - - -		14. 30
		Peak - -	E 23. 30 S	16. —
		R Ext. -	25. — -	17. —
	One of the two Rocks which appear like Sails			14. 30
d	Tailock - - -	L Ext. - - - - -		9. 30
		In one with a Point within Cabareta Iſland		
		Saddle, in one with diſtant round Iſland		10. 30
		R Ext. - - - - -		11. 30
	Rock - - - - - - - - - - - - - -			7. 30
h	Chuctaan - - - - - - - - - - - -			8. — / 6. —
q	Chichow - - -	R Ext. - - - - -		6. —
e	Sylock - -	and Peak of Ling-ting - - -		5. —
f	Samcoke - - -	R Ext. - - - - -		2. 30
		Peak - - - - - -		1. 30
		L Ext. - - - - -		Eaſt
i	Longſhitow - -	R Ext. - - - - -		E 5. — S
		Peak - - - - -		2. —
		Little Peak - - - -		0. 30
		L Ext. - - - - -		E 0. 30 N
p	Socko-chow - - - - - - - - - - -			0. 30 / 3. —
k	Low Iſland ſtretching from Laf-ſam-mee -			3. 30 / 4. 30

Laf-

		A ° ′		B ° ′	
1 Laf-ſam-mee - -	R Ext. - - - -			E 4. 30	N
	Gap - -	E 3. —	N	6. 30	
	L Ext. - - - - -			7. —	
Appearing like Iſland off it,	L Ext. - - - -			7. 30	
g Changchow - -	R Ext. - -	0. 30	-	6. —	
	Higheſt Part	1. —	-	6. 30	
	L Ext. -	2. —	-	7. —	
Lantao Iſland - -	R Ext. -	6. 30	-	9. 30	
Peak - - - - - - -		14. —	-	15. 30	
	L Ext. -	21. 30	-	24. 30	
Lintin - - - -	R Ext. -	43. —	N	46. 30	E
	Peak - -	45. 30	-	45. —	
	L Ext. -	49. —	-	41. —	
Cabareta Iſland Pt. and Inner Points		S 54. 30	E		
Carbareta Iſland - - - - - - -		55. —			
Rocky Pt. of Typa - - - -	E	41. —	S	E 9. 30	
Rock - - - - - - -		45. —	-	8. 30	
Outer Point - - - - - - - -		34. —	-	6. 30	
The Mizen - - - - - - - - - - - -				W 43. —	S
Ext. of Montania - - - - - - - - - -				37. —	
Montania Peak - - - - -		S 28. —	WS	11. —	W
S°. Peak Montania - - - - -		S 1. —	ES	19. —	E
The two Points of Buncum channel		S 1. 20	W }	33. —	
		S 1. —	E }		

The Bearings for Macao, and the Iſlands forming the Typa, are omitted, as not immediately relative to the Chart, the Form of the Typa being chiefly taken from a Plan of Captain George Baker.

Stat.

Stat. 4. 30th April 1760, at Anchor in $4\frac{3}{4}$ Fathom S° of Cabareta Point.

	Ext. of z	S 28.—	E
	Potoe and higheſt Part, z	34.—	
	Ladron Peak	41.—	
	L Ext.	45.—	
	Wungboo — — — R Ext.	46.—	
	L Ext. in one with R Ext. round b	59.—	
	L Ext. round b	60. 30	
	Weſtern b	61.— / 66.—	
	Saddle between 2 Peaks of diſt. Iſland	66.—	
	L Ext. diſtant Iſland	68. 30	
	Another diſt. Iſland	79.— / 82. 30	
	Another diſt. Is^d. R Ext.	E 0. 30 N	
	Peak	1. 30	
	L Ext.	2.—	
c	Tailow-chow R Ext.	2.—	
	Peak	6. 30	
	L Ext.	8.—	
i	Longſhitow R Ext.	8.—	
h	Chuctaan	9.— / 11.—	
	Noſe of Longſhitow	10.—	
	Peak D°	11. 30	
	N°. Peak D°	14.—	
d	Tailock	14.— / 16.—	
	Rock N^d. of Tailock	18. 30	
	Rock off Sylock	20. 30	
e	Sylock	21.—	
l	Laf-ſam-mee R Ext.	22.—	

Gap

	Gap - - - - - - -	E	23°. 30′ N
	L Ext. - - - - - - - - -		24. —
f Samcoke - -	R Ext. - - - - - - - - -		24. —
	Peak - - - - - - - -		25. 30
	L. Ext. - - - - - - -		27. 30
g Chang-chow - - - - - - - - - - -			31. — / 32. 30
Lintin Peak - - - - - - - - - - - -			58. —
Cabareta Point - - - - - - - - - -			N°.
Montania Peak - - - - - - - - -		W	14. — N
So. Peak Montania - - - - - - - - -		W	10. — S
W Ext. - - - - - - - - - - - -			18. —
The Mizen - - - - - - - - - - -			27. —

Stat. 5. 15th April.

Cabareta Point - - - - - - - - - -	N	29. — E
Peak of Tailow-chow -- - - - - - - -		59. —
Potoe - - - - - - - - - - - - -		71. —
Gr. Ladron Peak - - - - - - - - -	E	12. — S

Stat. 6. 16th April.

Peak of Tailow-chow and L Ext. W. b -	N	30. 30 E
Potoe, higheſt Part - - - - - - - - -		2. —
Cabareta Point - - - - - - - - -	N	15. — W
Peak of Pack-leak-low - - - - - - - -		E
Gr. Ladron Peak - - - - - - - - -	E	30. 30 S

Stat. 7. 2d May 1760. at Anchor in 8½ Fath. So. of Wungboo.

Iſland z	R Ext.	S 8. —	E
	Higheſt Part	20. —	
	L Ext.	28. —	
Gr. Ladron	Peak	41. —	
	L Ext.	49. —	
Peaked Rock of *Anſon*		57. —	
Saddle between 2 Peaks of Chookchow		82. 30	
Rock Nd. of Pack-leak-low		84. 30	
E. b		86. —	
		E 31. —	N
Longſhitow	R Ext.	34. —	
	Peak and R Ext. round b	38. —	
Middle round b		43. —	
L Ext. Do and R Ext. long b		45. —	
Middle long b		49. —	
L Ext. D°		52. —	
Tailow-chow	R Ext.	53. —	
	Peak	69. —	
	L Ext.	70. —	
Samcoke	Peak	71. —	
Tailock — Wungboo	higheſt Part and R Ext.	72. —	
The Mizen		W 14. —	S
Montania Peak and Potoe		W 35. —	N
Cabareta Point		N 29. —	W
Rock off Wungboo		20. —	
		16. —	
L Ext. Wungboo		6. 30	

Stat.

Stat. 8. 21ſt April 1760 at Anchor in 6 Fath. off Samcoke.

Rock Nd. of Tailock and Wungboo Peak		S 25. —	E
Sylock	45. —		
Rock Nd. of it	53. —		
Sn. of 2 Diſtant Rocks	55. —		
Nn. D°	58. —		
Rock off Wungboo		S 16. —	W
Potoe	25. —		
Rock off it	26. —		
Montania Peak		W 12. —	S
Cabareta Pt.	10. —		
Lintin Peak		N 23. —	E
Lantao Peak		E 25. —	N

Station 9. 18th April 1760 at Anchor in 4½.

C Potoe		S 11. —	W
a Wungboo	4. —		
	2. —		
b Iſlands	S 3. 30	E	
	6. —		
c Tailow-chow	8. —		
Peak	8. 30		
	12. —		
Rock off Tailock in one with L Ext. Eaſt b	12. 30		
d Tailock	11. —		
The higheſt Part	10. —		
	9. —		
e Sylock	R Ext.	14. 40	
	Middle	16. 30	

f	Samcoke - -	R Ext. - - - - - - - -	S 16.	30 E
		Peak - - - - - - - - -	19.	40
		L Ext. - - - - - - - -	25.	30
h	Chuctaan -	R Ext. - - - - - - - -	34.	20
g	Changchow -	R Ext. in one with about the Middle of Chuctaan	36.	40
		Higheſt Part - - - - - -	39.	30
		L Ext. - - - - - - - -	41.	—
i	Longſhitow -	R Ext. - - - - - - - -	51.	30
l	Laf-ſam-mee -	R Ext. - - - - - - - -	62.	30
		Gap - - - - - - - - -	65.	30
	Lantao Peak - - - - - - - - - - - - - -		E 5.	— N
	Lintin Peak - - - - - - - - - - - - - -		56.	—
	L Extreme of Montania - - - - - - - -		S 38.	30 W
	Cabareta Point - - - - - - - - - - - -		39.	—
	Montania Peak - - - - - - - - - - - -		51.	30
	Rock off N°. Pt. at Mouth of Typa - - - -		52.	30
	Point near that Rock - - - - - - - - -		53.	30

Stat. 10. 19th April 1760 at Anchor 4½ Fath.

View N°. 3.

	Montania Peak - - - -	S 60.	—	W	Alt. 1: 2
	Cabareta Point - - - - -	54.	—		
C	Potoe - - - - - - - - -	24.	—		
	Wungboo, a - Alt 0°. 21′ Vid. View. 1	18.	—		
	Wungboo, a - Alt 0°. 21′ Vid. View. 2	14.	—		
*	R Ext. Tailock - - - - 3	12.	—		
L	0. 41. R Ext. Samcoke, f 4	Alt. 0.	33		
	0. 57. Middle or higheſt Part Tailock, - - - d	Alt. 0.	42		
	2. 36. Peak of Tailow-chow c	Alt. 0.	42		
	3. 39. Peak of Samcoke - 6				

Bay

			Vid. View.
		Bay on Samcoke - - - -	5, 7
L 10.	51	L Ext. D° - - - - - - -	8
13.	31	Gr. Ladron Peak and L Ext. b Iſlands	9
15.	14	R Ext. Changchow - - g -	10
23.	15	L Ext. (in one with - - - -	11
		Pack-leak-low Peak) - y	
24.	18	D° - - - L Ext.	
28.	—	Iſland, - - - - - - - x	
31. 21 35. 5		Chuctaan - - - - - h -	12, 13
35.	46	- - - - - - - - - -	14
36.	42	Saddle betw. 2 Pks Chookchow, w v	15
38.	7	- - - - - - - - - -	16
39.	31	- - - - - - - - - -	17
56.	—	R Ext. Diſt. Iſland ſup^d Chichow -	7
56.	41	R Ext. - - - - - - - - -	6
62.	38	Peak Longſhitow, - - -	5
65.	54	N°. Peak - - - - - - -	4
68.	2	R Ext. - - - - - - - -	3
73.	13	Gap Laf-ſam-mee, 1 Alt. 0°. 52′	2
75.	55	L Ext. - - - - - - -	1
80.	20	R Ext. - - - - - - - -	7
81.	42	Peak Ling-ting - Alt. 0° 32′	
82.	39	L Ext. - - - - - - - -	6

Iſland to Left of Lingting R Ext. - S 71. 32 E

	Vid. View.		
Peak	5	-	72. 10
L Ext.		-	74. 30
Iſland - - - - - - - - -	4	-	74. 51, 76. 21
Small Iſland - - -	3	-	76. 51
R. Ext. Iſland - - - - -	2	-	78. 21
Iſland, m - - Alt. 0°. 29′	1		

Lantao Peak - - - - - - - - - - - E 8. 30 N

Lintin Peak - - - - - - - - - - - N 24. — E

Stat.

Stat. 11. 3d May 1760 at Anchor off Gr. Ladron in 14 Fath.

View N° 6.

	Gr. Ladron Peak	W 11°	30′ N
	Montania Peak and Potoe	35.	—
	The Ladron Iſlands	24.	—
		W 9.	— S
a	Wungboo - L Ext.	W 40.	— N
	Eaſt b - - L Ext.	46.	—
y	Pack-leak-low	51.	—
		83.	—
h	Chuctaan	N 7.	— W
		5.	—
x w v	Chook-chow - 1ſt Iſland	N 4.	— E
		11.	—
	2d making like two	14.	—
		19.	—
		19.	—
		24.	—
	3d making alſo like two	27.	—
		31.	—
		39.	—
	Rock or ſmall Iſland off them	42.	—
		44.	—

Vide View N° 6. Stat. 11. Stat. 12.

1. 2. 3.	I-tſow, - - u - - -	N 49°	— E
		52.	—
		54.	—
4.	Lingting - - - - - - -	56.	—
4. 5.	1ſt Samoan, - r - - - -	56.	—
		58.	—
	R Ext. Lingting - - - -	59.	—

6.

Stat. 11.

6. 7. 2d Samoan, - s - - - 60. 30 / 63. 30
8. 9. 3d Samoan, - t - - - - 65. — / 67. —

Aſſes Ears.

	Stat. 11.		Stat. 12.	
1. - - -	S 84. 30	E - - -	E 31. —	S
2. - - -	82. 30	- - - -	37. —	
3. - - -	82. —	- - - -	39. —	
4. - - -	78. 30	- - - -	54. —	Alt. 2°. —
5. - - -	77. —	- - - -	58. —	
6. - - -	75. —	- - - - -	65. —	
7. - - -	73. 30	- - - - -	70. —	Alt. 1°. 27′.
8. - - - -	72. 30	- - - -	73. —	
9. - - -	71. 30	- - - -	76. —	
10. - - -	70. 30	- - - - -	77. —	
11. - - -	69. 30	- - - - -	79. 30	
12. - - -	68. —	- - - - - - -	-	
13. - - -	67. —	- - - - -	82. —	
14. - - -	66. 30	Peaked Rock	87. —	
		White Rock S	1. —	W
15. - - -	61. — / 60. —	like 2	L Ext. 4. —	
		- -	5. 30 / 8. —	
16. - - -	57. 30 / 56. 30	- - - -	8. — / 11. —	
17. - - -	55. 30 / 54. 30	- - - -	12. — / 13. —	
18. - - - - -	53. 30			
R Gap Rock in Anſon's View	50. —	- - - -	18. —	

When

When this View N°. 6 was taken the Gr. Lema was in haze, as well as the Rock in mid Channel between the Lemas and Aſſes Ears, but the S°. moſt of the Lema bore S 86°. —′ E.

The Extremes from the two Stations are not the ſame individual Points, but the viſible Extremes from each Station; it was incertain whether the Peaked Rock or White Rock from Stat. 12. was, 14, from Stat. 11.

From Stat. 12 there were two Rocks to the Left of the Aſſes Ears which were not viſible when the View was taken.

The 1ſt bore - - - - - - - - -	E 29°.	—′ S
2d - - - - - - - - - - - -	29.	30

Stat. 12. 4th May 1760 at Anchor in 17½ Fath.

			°	′	
Gr. Ladron - -	L Ext. - -	W	5.	— S	
	Peak - - -		1.	—	Alt. o. 55
	R Ext. - -	W	o.	30 N	
z - - - - - -	Higheſt Part -		1.	—	
	R Ext. - - -		2.	—	
Pack-leak-low - - - -		W	4.	30 N	
	Peak - -		12.	—	
			13.	—	
Long b - - -	L Ext. - -		13.	—	
Montania Peak - - - - - - -			21.	—	Alt. o. 30
Chookchow - - - - - - - - -			15.	—	
			21.	—	
Tailowchow Peak - - - - - -			30.	—	
Tailock - - - - - - - - - -			33.	—	
Samcoke - - - - - - - - -			37.	—	
Chucktaan - - - - - - - - -			39.	—	

I-tſow

I-tsow - - -	1st Island -	N 41. —	W
		37. —	
	2d - -	37. —	
	Gap -	31. —	
		28. —	
Middle of Chichow - - - - -		27. —	
R Ext. Do - - - - - - -		25. —	
L Ext. of Lantao Island - - -		26. —	
Rock or Sm. Island to the R. of I-tsow		19. —	
Lantao Peak - - - - - - - -		10. —	Alt. 1. 30
Do - E. Peak - - - - - -		5. —	1. 26
Samoan - - - 1 - - -		N 6. —	W
		N 1. —	E
	s - - - -	3. —	
		9. 30	
	t - - - -	12. —	
		21. —	
Falſe Lantao Peak - - - - - -		17. —	Alt. 0. 55
Lingting - - -	Gap - - -	18. —	
	Saddle - -	20. —	
Fanchin-chow R Ext. call'd Tapongso Point - - - - - - - - -		46. —	
Lochow - - - - - - - - -		47. —	
		48. —	
Poo-toy - - - - - - - - -		49. —	
		52. —	
Gr. Lema - -	- - -	71. —	
	Peak - -	76. —	Alt. 1. 19
		81. —	
	Peak of another	77. —	Alt. 1. 20
Southern Lema - - - - - -		83. —	
		86. —	
Rock in mid Channel - - -		E 18. —	S

For the other Bearings Vide the Explanation of the View No°. 6. Page 14.

Stat. 13. Sunset 5th May 1760.

R Ext. Lingting and Lantao E Peak		N 28.	—W
Gap - D° - and Lantao Peak		35.	—
Gr. Ladron Peak		W 9.	— S
False Lantao Peak		N 4.	— E
R Ext. Fanchinchow		40.	—
Asses-Ears and Rock in Mid-channel		S 29.	—W

Sat. 14. 5th May a little before Noon off Gr. Lema.

Gr. Ladron Peak		W 15.	— S
Longshitow Peak		W 4.	— N
Chichow		2.	—
Ling-ting		1.	30
	Gap	W 0.	30 S
		3.	—
Gap of I-tsow		9.	30
Lemas		34.	—
	1st Peak	38.	—
	2d Peak	44.	—
The Gr. Lema		43.	30
		S 4.	— E

Stat. 15. 18th November 1764 at Anchor in 6½ Fath. off Lamma. View N° 5.

	L Ext. Ling-ting	7.	S 20.	15 W
L 48°. 25′	R Ext. Lamma and L Ext. Lema	1.		
39. —	R Ext. D°	2.		

L 37.

L	37. —		3.		
	29. 25		4.		
	28. 20	Lemas	5.		
	25. 25		6.		
R	9. 30	Peak of Ling-ting	8.	Alt. 1°. 20′	
	11. 20		9.		
	12. 40		10.		
	14. 25		11.		
	15. 25	Samoan	12.		
	17. 40		13.		
	19. —		14.		
	21. 30		15.		
	23. 20	I-tsow	16.		
	24. 30		17.		
	25. 10		18.		
	42. 45		19.		
	43. 45	Chichow	20.		
	46. 15		21.		
	50. 10		22.		
	52. 15	Peak of Longshitow	23.		
	54. 30		24.		
	56. 15	L Ext. S°. Chongchow	25.		
	58. —	Socko-chow	26.		
	60. 20	D°	27.		
	65. 30	R Ext. S°. Chongchow	28.		
	69. —	L Ext. N°. D°	29.		
	74. 15	R Ext. D°	30.		
	80. —	A Point on Lantao Island	31.		
	82. 25	Another Pt.	32.		
		and Lantao Peak	L	Alt. 2°. 50′	
	88. 10	D° E. Peak	33.	3. 10	
	94. 15	Another Peak	34.		

* 2d L Ext. S°. Chongchow- - - - - - —

R	43° 20′	- - - - - - - - -		35.
	50. 20	Nakow-chow - b - -		36.
	56. 20	- - - - - - - - -		37.
	58. 20	Nakow-chow - b - -		38.
	67. —			39.
	69. —	Taipak Peak - c - -		40.
	72. 40	R Ext. - - - - -		41.
	77. 50	Siupak - - - - d		
	79. 30			
	87. 10	Pſang-chow - e		
	91. 30			
Pt. of Chinfalo - - - - - - - - -			42.	N 6°. 45′ E
Falſe Lantao - - - - - - - - -			43.	8. 45
Typak Howe - - - - - f - -			44.	11. 30
		Peak - -	45.	13. —
			46.	15. —
Little Iſland - - - - - - - - -			47.	15. 30
Fanchin-chow - - L Ext. - -			48.	17. —
Lamma - - - - - N W Pt. - -			49.	20. —
			50.	36. 30
		Rocky Pt. -	51.	40. —

Stat. 16. 19th November 1764 on the higheſt Hill of Cowhee.
View N°. 4.

* L Ext. Pſang-chow—2 Points Lamma and R Ext. Middle Lema. 15

L	61° 20′	A Peak	
	42. 15	R Ext. Chinfalo	
	32. —	- - - - - - - - -	1
	26. 55	- - - - - - - - -	2

L	25°. —′	- - - - - - - - - - -	3
	24. 15	- - - - - - - - - - -	4
	23. 10	- - - - - - - - - - -	5
	22. —	Typakhowe - - - - f -	6
	20. 10	- - - - - - - - - - -	7
	19. 30	- - - - - - - - - - -	8
	18. 20	- - - - - - - - - - -	9
	17. 20	- - - - - - - - - - -	10
	15. 40	- - - - - - - - - - -	11
	13. 20	- - - - - - - - - - -	12
	11. 20	- - - - - - - - - - -	13
	4. 30	- - - - - - - - - - -	14
R	1. —	L Ext. Mid. Lema - - - -	16
	4. 10	Peak Pfang-chow - - - -	17
	4. 45	R Ext. - - - - - - - -	18
	5. 40	R Ext. Mid Lema - - - -	19
	6. 35 8. 30	Lema - - - - - - - -	20 21
	16. —	- - - - - - - - - - -	22
	16. 50	L Ext. Aſſes Ears - - - -	23
		L Ext. Siupak - - - d	
	19. 20	L Ext. Ling-ting - - - -	24
	20. —	L Ext. E Nakow-chow b and Aſſes Ears - - - - -	25
	20. 45	R Ext. Siupak	
	20. 50	Peak on Lingting - - - -	26
	21. 50	Peak of E Nakow-chow	
	22. 50	Peak of Lingting - - - -	27
	26. —	R Ext. Lingting and	
		R Ext. E Nankow-chow and	
		L Ext. Chong-chow, a	
	26. 20	L Ext. W Nakow-chow, b	
	27. 20	Rock off Taipak - - - -	28

R	28° 45′	L Ext. Taipak - - - - - - - - -	29
	30. 10	Peak of W Nakow-chow	
	31. 20	Peak of Taipak - - - c	30
	30. 30	Pt. on Lantao, the furtheſt in ſight	
	26. 20	Another Pt.	
	28. 45	Another Pt. off which there is a little Iſland	
	20. 30 25. 10	} Little Iſland off the Point	
	30. 25	Point on Lantao	
	58. 30	A little Bay D°	
	65. 50	A Pt. - D°	
	96. 4	Another Pt.	
		Extreme Pt. - - - - - W 11°. 30′ N	
		* 1ſt L Ext. Pſang-chow	
L	14. 20 22. 50	} Little Iſland adjacent to Cowhee	
	93. 50	Remarkable Gap in the Cliff on Chinfalo *2d	
		* 2d Chinfalo Gap and 1ſt rocky Pt. of Cowhee	
L	18. 45	Left Ext. Chinfalo and 2d rocky Pt. D°	
	15. 40	- - - - - Iſland or Rock off this Point	

I alſo took ſome other Bearings from this Station for the Points, but as the Lands on the Strait are not pretended to be delineated with much Preciſion, I choſe to omit them, as I have ſketched the Coaſts as they appeared to me from the Top of the Hill.

I likewiſe took many Bearings of the Points of the Iſlands in one, which I have made uſe of in *forming* the Iſlands, but I think it needleſs to inſert them, as the Poſitions of the Iſlands are in general determined from the Stations already inſerted ; and although I fancy this Chart will be found tolerably exact, I do not give it as a *Survey*.

In

In reciting the Materials for the Poſitions of the Iſlands to the Southward of Lantao, I have been in ſome Meaſure obliged to anticipate my Journal coming in from Pedro Blanco in November 1764. The two laſt Stations being properly appertaining to that *in Time*, though relative to *the Subject* now diſcuſſed.

Ship's

Ship's Log 28″ to 42 Feet.

Ship *London*, 1764.

At Sun-rise 40 Fathom Sand and Ouze.

Nov. 15.

H	Weather.	Winds.	Courſe.	K	F	Soundings.
7	Hazey.	N N E	N W	2	5	
8	———	———	———	2	3	38
9	———	———	———	2	3	35
10	———	———	———	2	4	34
11	———	———	———	2	5	
12	———	———	———	2	5	32 Sand and Ouze

In the Morning at Day Break, ſaw ſeveral fiſhing Champans, but did not ſee the Land 'till Noon being very hazey. Juſt after Noon ſaw Pedro Blanco about N W 4 Leagues diſtant.

At Noon Lat. ⊙ 22° 20′ N°. (C Alves).

M Diſtance a Barete in 19° N°. 4°. 55′ W

D° d° to Pedro Blanco 5. 5 W

16.

H	Weather.	Winds.	Courſe.	K	F	Soundings.
1	Hazey.	N E	N W	3	—	29. Sand and Ouze
2	———	N E b E	———	3	—	24
3	———	———	———	3	4	19
4	———	———	N W b N	3	5	17
5	———	———	———	3	—	15
6	———	———	———	3	—	15
7	———	———	N W ½ W	2	5	15. 15. 15
8	———	E N E	N N W	2	5	17. 15. 15
9	———	———	N	1	5	15. 13. 12 At ½ paſt 8 anchored

Pedro Blanco is delineated in two Views, at 3 P M N°. 8, when bearing N 8° E 1′ diſt. 20 Fathom Ouze, and N° 9, at ¾ paſt 3, when it bore Eaſt 2′ diſt. 17 Fathom Ouze. When it bears N° it appears divided into two Rocks; the lower Part being much darker than the reſt in an horizontal Line when we paſt it at 3 P M I concluded it was then near low-water: The Top is pretty white.

In

1764. Nov. 16. In the Afternoon the Land was viſible *Weſtward* from *Single Iſland*, to far beyond *Fokai Point* on the *Eaſt*, but ſo hazey that I could not diſtinguiſh *Honghai*, nor even any of the Rocks. In the Afternoon we could diſtinguiſh the Iſland off *Fokai Point* in the Portugueſe Draught*, which Iſland, having no Name in that Draught, we called *Mendoza's Iſland*, from Don Felis Mendoza who made the Draught. This Iſland we afterwards found is named by the Chineſe *Singſoy*.

At ¼ paſt 5 the View (N°. 10) was taken.

1.	Single Iſland	W	1.	— S
2.	Diſt.			
3.		W	7.	— N
4.			14.	—
5.			15.	30
6.			26.	30
7.	Singſoy		33.	—
8.			38.	—
9.	Sink-kŏ		41.	—
10.	Fokai Pt.	N	37.	— W

At this Time *Pedro Blanco* bore E 39° S, the Soundings 15 Fathom Ouze. The Weather was then ſo hazey that the Landin the Bottom of the Bay was not diſtinct. We determined to run in and anchor under Mendoza's Iſland during the Night which we did, having 13 and 12 Fathom paſſing to the Weſtward of the Iſland.

At Day-break at Anchor in 12 Fathom: I took a View (N°. 11) which will convey an Idea of *Singſoy*, or *Mendoza's Iſland*, *Saddle Iſland*, called *Sink-kŏ* by the Chineſe, and the Land towards *Ponghy*. The Land to the Weſtward of *Fokai*

* This Portugueſe Chart is tolerably exact, I got it from Mendoza in November 1761 at Manila where I met him.

1764. Nov. 16. is very ragged and barren with ſandy Beaches, ſome of the inland Mountains make in ſharp Peaks, but the Coaſt is in general ſo much alike, that a View would not reward the Trouble, the Extreme to the Left is a bluff rocky Point and between it and the *Iſland*, which the Chineſe call *Tapong ſung*, there was a *White Rock*; the R Ext. of the Iſland ſeemed to be Part of a more diſtant Land, but it was ſo hazey that I could not determine, nor diſtinctly ſee the other Iſlands in Mendoza's Draught.

The high Land within *Single Iſland* bore W 2°. S the Iſlands are delineated in the View. Some Fiſhermen, who now came aboard for the firſt Time, called the high Iſland *Tonneang*.

Mendoza's Iſland reſembles all the high Iſlands and Hills I have ſeen on the Coaſt of China, that is, very rocky and apparently barren, though with ſome little verdure, *Sink-ko* ſeems to be almoſt a bare rock with ſteep Cliffs. Its L Ext. and the R Ext. of the Main, were juſt ſhut in, between that and the *firſt Little Iſland* there ſeemed to be Breakers, but incertain whether on the Shore or not.

View N° 11. Sunriſe 16th November 1764, at Anchor in 12 Fath. Mud.

1.	-	* 1ſt R Ext.	Singſoo - - -		S 20°. 15′ E	
2.	-	L 4°. 45′ Peak				
3.	-	- 6. 45 L Ext.				
4.	-	- 19. 30	- - - -	Alt.	3°. 30	
5.	-	- 26. —	Singſoy - -		3. 30	
6.	-	- 34. —				
7.	-	- 39. —				
21.	-	102. 20	Pagoda on Hill * 2d			
			* 2d Pagoda on Hill		0. 30	
23.	-	L 3. 10	Diſt. Land			

22.

1764. Nov. 17.

22.	-	L	1.	40							
20.	-	R	0.	50	-	-	-				
19.	-	-	2.	15							
18.	-	-	7.	10	-	-	-	Alt.	1.	15	
17.	-	-	8.	50							
16.	-	-	12.	15							
15.	-	-	14.	35	-	-	-	-	-	1.	10
14.	-	-	15.	25							
13.	-	-	18.	50	Fokai Pt.						
13.	-	-	18.	50							
12.	-	-	22.	5	-	-	-	-	1.	35	
11.	-	-	27.	15	Sink-kŏ						
10.	-	-	-	-	-	-	-	-	1.	45	
9.	-	-	34.	20							
8.	-	-	37.	40							

24.	Tapongſung Point	W	38. — N
25.	White Rock		34. —
26.	R Ext. appearing like diſtant Land		32. 30
27.	Pt.		31. 30
28.	Peak Tapongſung Iſland		29. —
29.	L Ext.		26. 30
30.	Higheſt Part of high Land	W	2. — S
31.	R Ext.		16. 30
32.	Peak Tonnean		21. 40
33.	L Ext.		23. 45
34.			25. —
35.			28. —
36.			32. 15
37.	Single Iſland		39. —
38.			40. —

1764. Nov. 16.

H	Weather	Winds	Courſes	K	F	Soundings
3 } 9 }		Calm				- - - - } At 7 came aboard many fiſhing Boats
10		E N E	Weighed			
11			S S W	1	—	12. 11½. 11. 12 } Soft Ouze.
12			S W b S	2	2	12. 13. 13½ }

A M N° Little Iſland and Pagoda Hill E 38°. —′ N
R Ext. Sink-kŏ and Point under Peak 31. —
11¼ Ouze { L D° - - - and Pagoda Hill - 40. —
{ R Ext. Singſoy - - - - - - E 12. 30 S

At Noon Lat. ⊙ 22°. 35′ N 12 ¾ Ouze.

☌ 48°. 20′ + 16′ − 4′ = 48°. 32′ Z D 41°. 28′. Ded. 18°. 53′ Lat. ⊙ 22°. 35′ N°.

C. Alves 48. 18 - - - - - - - - - - - 22. 37
* Extreme of the Main in Sight or S°. Point Fokai E 26°. 30′ N

R 2. — L Ext.
8. — Peak } Singſoy
18. — R Ext. }
L 4. 40 Peak
8. 35 } Sink-kŏ
12. 15 }
12. 15 Pagoda Hill
13. 15 L Ext. Pagoda Hill
90. 25 Point of Tapongſung Bay
2d. White Rock - - - - - - - - - N 29°. —′ W
R 2. 20 Point of Tapongſung Bay
L 7. 15 }
9. 30 } Iſland of Tapongſung
11. 10 }
32. 20 Peak
54. 30 Higheſt Part of High Land

1764. Nov. 16.

69. 50 }
75. 50 } Tonneang Iſland
77. 40 }

78. 30 }
81. 10 } Iſland—the R. Ext. what ſet from Anchor

82. 10 }
87. 10 } Iſland to Northward of Single Iſland

98. 20 Peaked Rock *3d

* 3d Peaked Rock per Compas - W 35°. 30' S

L 0. 45 }
1. 20 } Single Iſland per Compaſs - - - - 37. 30
2. — }

Nov. 17.

H	Weather	Winds	Courſe	K	F	Soundings
1	Cloudy	E b N	S W b S	2	—	13. 13½ ſoft and ſtiff mud
2			S W	2	—	13. 15
3				3		
4			W S W	3	5	16. —
5		S E		3	5	15½. 15
6			S W b W	3	5	14½. 14. 14½. 15
7			S W	3	—	14. 15½
7½				1	2	16. 17. Anchored at ½ paſt 7 PM

PM

L Ext. Singſoy and S°. Point of Fokai E 28. — N

R Ext. Iſland ſouthward of Tonneang and Tonneang Peak - - - } W 5. 30 N.

No Ground 15. { Peaked Rock and Single Iſland Peak S 38. — W
R Ext. Tonneang - - - - - N 33. — W

R Ext. D° and 2 Pts. of the High Land 28. —

R Ext. 1ſt Iſland to Nd. of Single Iſland and High Land - - } N 40. — W

16. Fath. D° - - and R Ext. Tonneang - 5. 30

16. R Ext. Tonneang and L Ext. Iſlands 11. 30

16. { Peak of Singſoy - - - - - E 31. — N
Peak of Single Iſland - - - S 45. — E

16. Fath.

1764.				°	′	
Nov. 17.	16. Fath.	L 1ſt Ext. Iſland North$^{d.}$ of Single Iſland and L Ext. of two Rocks	N	42.	30	W
		Peak of Tonneang and Peak of High Land - - - - - -		32.	—	
		L Ext. D° and L Ext. 1ſt Iſland -		33.	—	
		L Ext. 1ſt Iſland and Peak of High Land		30.	—	
	16.	D° -- - - and Peak of Tonneang		27.	—	
		D° - - - and R Ext. Tonneang	N	22.	—	E

At ¼ paſt 5 P M 14½ Fathoms.

		* Peaked Rock - - - - - - - - - - -	E	12.	— N
L	14°. — ′	Peak of Singſoy			
	39. 40	Peak of Tonneang			
	50. 40	Little Rock * 2d			
	73. 40	Peak of High Land			
		* 2d Little Rock - - - - - -	N	27.	20 E
L	53. 20	Rock 3′ or 4′ Diſt.			
	78. 20	Point 3 or 4 Diſt. (beyond like deep ſound & ſeveral Peaks on oppoſite Side)			
		L Ext. Lemas - - - - - - - - - - -	S	36.	— W
		Higheſt P$^{t.}$ of G. Lema - - - - - - - - -		38.	30

We paſſed through between *Single* Iſland and the 1ſt Iſland to the Northward having 16 Fath. We left *Peaked Rock* to the Southward of us, paſſing not ½ a Mile from it: The appearance of this Rock when it bore S E is delineated in the View (N 12.) There was a white Ripling from hence, half-channel over towards *Single Iſland*, but I cannot determine whether it was occaſioned by the Tide, or *ſhoal water*, though I imagine by the former; there is a Reef of *Breakers* ſtretching a little way out from the Eaſtern Point of *Single Iſland*.—The *firſt*

Iſland

1764. Nov. 17. Iſland to the Northward is of a good height but flat, and apparently the barreneſt hereabout, even the Top being almoſt every where bare rock.

On the Weſtern Part of *Tonneang* there was a Building reſembling a Fortification; whilſt we were in the Channel between *Single Iſland* and that to the Northward, a Boat paſſed cloſe under our Stern and offered to pilot us to Macao; as we did not ſhorten ſail, they could not get aboard, whereupon they ſtood in for the Shore.—A Champan under Sail followed us after we paſſed; ſome Rice and Fiſh had been bought from them in the Morning, but as they had now nothing but Fiſh, we did not ſhorten Sail, and they went away.

There is little difference in the appearance of the Land, to the Weſtward of theſe Iſlands; the Coaſt ſeemed pretty ſtreight, with a long ſandy beach, towards the Weſtward of which there is a ſmall round rocky Iſland; beyond this beach the Coaſt rounds off in a rocky Point of high Land, where there ſeems to be a very deep Sound, or perhaps a Channel coming out to the Eaſtward of *Tonneang*.—The oppoſite Side all down to the S. Weſtward is high Land, with ſeveral ſharp Peaks and broken Land like Iſlands; but the Hazineſs of the Weather, as well as the Courſe we ſteered, did not permit to take many Bearings on that Side.—In the Afternoon we ſaw ſome of the Lemas, though not very diſtinctly, the Outermoſt appeared in *three* Hillocks. At ½ paſt 7 P M we anchored, not chuſing to run on in the Night, although it was very diſagreeable lying at Anchor, as there was a very large Sea from the Eaſtward which made the Veſſel pitch and labour much.

At

1764. Nov. 17. At Sunriſe at Anchor 17. ſtiff Mud.

Nine-pin Rock - - - - - - - - - W 35°. —′S
Bluff Pt. on an Iſland - - - - - - - 10. —
The Points of the deep Sound (a-breaſt of us at Sunſet) - - - - - - - - - N 30. —W N°.
The laſt being what was ſet at Sunſet N 51°. —′ W
The Weather was ſo hazey that we could not diſtinguiſh the Lemas or Land to the Eaſtward.

H	Weather.	Winds.	Courſe.	K	F	Soundings.
7	Hazey.	N E	S°.	—	5	15 ſtiff Mud
8	——	——	S S W	1	2	15
9	——	——	——	2	—	15
10	——	——	S W	2	3	15. 16
11	——	——	W S W	2	3	16½
12	——	——	S W ½ S	1	5	17

Having weighed at ½ paſt 6 A M we ſtood on to the Southward.

A M

R Ext. Nine-Pin Rock and R Ext. N°. Ragged Isd. W 20°. 30′ N
L Ext. D° - - - and D° - - - - - - 22. 30
R D° D° - - - and River Iſland Peak - 43. —
L Ext. Ragged I. and R Ext. Tat-hong-moon - - 8. —
L Ext. D° - and Iron Point - - - - - 10. —

At 11 A M the View N° 13. was taken, Soundings 16 Fath.

1 Nine Pin Rock - - - - - - - - N 26°. —′ W
2 - - - - - - - - - - - - - - - 31. 30
3 - - - - - - - - - - - - - - - 33. —
4 Rock in Shore - - - - - - - - - 40. —
5 River Iſland - - - - - - - - - - 41. 30
6 Rock in Shore - - - - - - - - - 42. 30

7.

1764. Nov. 17.

7. - - - - - - - - - - - - - - N 43. 30 W
8. - - - - - - - - - - - - - - W 44. — N
9. Ragged Iſlands - - - - - - - - - 27. —
10. - - - - - - - - - - - - - - - 23. —

The main behind theſe Iſlands ragged with many Peaks.

11. Iron Point - - - - - - - - - - 16. —
12. - - - - - - - - - - - - 14. 30
13. Tat-hong-moon - - - - - - - - - - 6. —
14. - - - - - - - - - - - - Weſt
15. - - - - - - - - - - - - - - W 16. 30 S
16. * R Ext. Lo-Chow - - - - - - - 20. —
17. L 2°. 50′ Peak } D°
18. 4. 35 L Ext. }
19. 6. 30 R Ext. Pootoy
20. 7. 30 } Song-keo.
22. 12. 25 }
21. 11. — Peak Pootoy
23. 14. 15 Rock
24. 17. — L Ext. Pootoy

At Noon ☉ 48°. 21′ + 16′ − 4′ = 48°. 33′ ZD 41°. 27′ Dec. 19°. 8′ Lat. 22°. 19′ N.

C. Alves 48°. 18′ - - - - - - - - - - 22. 22
Mr. *Shiells* 48. 20 - - - - - - - - - - 22. 20

At Noon Lat. O 22°. 19′ N°. 17. Mud.

* L Ext. Grand Lemas - - - - - - - S 15°. — W
R 10°. 30′ Peak on D°
41. 15 } Waglaang - - - 3 or 4′ Diſt.
46. 20 }
47. 30 L Ext. } Songkeo
54. 40 R Ext. }
48. 30 Peak of Pootoy

1764. Nov. 17.

R 56. —
59. — } Lo-Chow
62. —

66. 20 Diſt. Pt. or L Ext. Lamma 9 or 10′ Diſt.
67. 30 Point or L Ext. Fanchinchow 6 or 7′ Diſt.
69. 20 } Iſlands
71. — }

Ragged Iſlands - - - - - - - - - { N 14°. —′W / 5. —
Nine-pin Rock - - - - - - - - - N 16. — E
* 2d Peak in one with Point - - - - N 25. —W
L 44°. 50′ L Ext. Tat-hong-moon (* 3d)
* 3d L Ext. Tat-hong-moon - - - - W 20. — N

R 9. 10 Peak Tat-hong-moon
18. 20 R Ext. D°
21. 20 Iron Point
38. 15 Little Iſland
44. 50 Peak (* 2d) and Point
45. 20 River Iſland Peak

The ragged Iſlands which I conceive to be *Nau-pean* and *Wow-chow* of *Yafou*'s Draught, are very rocky and barren; they are what Mendoza's Chart lays down to the Eaſtward of Iron River; their Appearance at 11 A M is delineated in the View (N° 14.) and alſo the *Nine-pin Rock*, and another adjacent, both theſe lye to the Eaſtward of the *Ragged Iſlands*; to the Northward the Coaſt ſeems to be compoſed of many broken Iſlands, and in many Places there appear ſunken Rocks.—To the N W from *Nine-pin Rock* there is a deep Bay which ſeemed to have a pretty high Iſland in the Middle and ſeveral little Iſlands or Rocks.—There is between the *Nine-pin Rock* and *Ragged Iſlands*, one low Rock, and another

to

1764. Nov. 17. to the Northward, both ſmall, juſt above Water with high Breakers.—There is a Spit of Breakers running out from the S°. Point of the *Ragged Iſlands*.

The Iſlands to the Southward are ill-deſcribed in Mendoza's Draught.

Waglaang is a bare Rock, juſt ſeparated into two.—It is called in the Bearings *Ragged Iron Iſland*.

Song-keo is called *E Iron Iſland*
Lo-chow *Peaked Iron Iſland*, and
Pootoy *Great Iron Iſland*.

All theſe Iſlands are high, but in nothing very remarkable.

Long Iron Iſland, called *Tat-hong-moon* in Yafou's Draught is alſo high.

Yafou, a Canton Pilot, in 1760, gave me a Sketch of the Channel within Lantao, and through the Iſlands on this Part of the Coaſt of China, which though very imperfect was ſufficient to point out the Iſlands in general, from this Draught *Waglaang* and the other Names are taken.

The *Tſan-tchow* are two ſmall Iſlands between *Tat-hong-moon* and the Point of *Fanchinchow*.

Nov. 18.

H	Weather	Winds	Courſe	K	F	Soundings
1	Hazey.	E N E	S W b S	3	2	17. 18 ſtiff Mud
2	———	———	S S W ½ W	3	2	18. 19. 20
3	———	E b N	S W b S	2	2	19½. 19
	———	———	S W b W	1	3	Came aboard Hyan a Pilot
4	———	———	W b N	3	—	18. 17. 16
5	———	———	N W ½ W	3	—	15. 16. 14½
6	———	———	———	3	—	14. 13. 12½. 12. 11. 10. 9. 8. 7½
6½	———	———	N b W	1	2	7¼ 7. 6½. 6. 6. 6. 6½

1764.
Nov. 18. At ½ paſt 6 anchored in 6½ Fath.

P M

R Ext. Songkeo, and R Ext. Lo-Chow - - W 1. — N
D° - - - - - and R Waglāng and 2d Pt. - 5. —
Peak D° - - and Peak of Lo-Chow - - - 2. —
R Ext. Waglāng and Point - - - - - 19. —
L D° L Ext. Songkeo and R Ext. Pootoy - - - W
L Ext. Pootoy and Peak Waglāng - - - W 20. — S
L Ext. Songkeo and R Ext. Lo-Chow - - W 20. — N
L Ext. Waglāng and R Ext. Songkeo - - - 39. 30
R Ext. Tat-hong-moon and Pt. at Noon - - E 20. — N
L Ext. Lamma and another Pt. of Lamma - - N 17. — W

Sunſet Mag. Amp. W 21°. — 'S Variat.

R Ext. Lamma and Peak of Lo-chow - - - E 4. — N

In the Afternoon, Hyan, a Chineſe Pilot came aboard, and offered to carry us to the *Boca-Tigris*, we informed him we intended to go within Lantao; he aſked 30 Dollars; being offered 15, he refuſed this Sum, and went away, but came back and agreed to take it; when he firſt came on Board I aſked him the Name of the Iſland we had laſt paſt, he ſaid it was called Pootoy; but taking the alarm on ſeeing the Draught, would not tell any of the others, pretending he did not know: In the Evening he was very importunate to go to the Weſtward towards Macao; pretending there was no other paſſage, but finding we perſiſted in going within Lantao, he acknowledged his Ignorance, and deſired us to come to anchor at dark, (as we intended) and in the Day he would enquire of the Fiſhermen, as we paſſed, where was the beſt Channel.—At our deſire he ſent his Boat for ſome Fowls, &c.

Having

1764. Nov. 18. Having anchored in the Evening off Lamma Iſland we lay there till Morning, when it being calm we continued at Anchor till Noon. Lat. O per C. Alves 22°. 20′ N.

☉ 48°. 6′ + 16′ − 4′ = 48°. 18′ Z D 41°. 42′ Dec. 19°. 22′ Lat. 22°. 20′ N.

Lamma is a high barren Iſland, with two or three Bays on the South and S E Sides, and a pretty large one on the Weſt or N W. The ſouthern Part lies E and W, and the S W and W Points N 17°. —′ W.

At Anchor in 6½ Fath. the View N° 5. was taken.—Vide P. 18.

	K	F
At 10 P M Tide N N W	1.	3.
5 A M - - S°.	1.	—

P M weighed.

Nov. 19.

H	Weather	Winds	Courſe	K	F	Soundings
1	Hazey	E b S	N	—	—	6¼. 5¾. ſoft.
2			N E b N	—	—	6. 6. 6½ 6. 5½. 6
3				—	—	6. 6¼. 6¼. 6½. 7. 7½ } Soft Ground
4		E	N ½ E	—	—	7¾. 8. 8½. 9½. 10. 11 } Soft Ground
5			N N W	—	—	12. 12¼. 12½. 12¾. 13. } Soft Ground
6				—	—	15. 16½ 16¾. 18. 19. 20. 19½. 21. 22 } Rocky Ground
7			W	—	—	23. 21. 20. 19½. 18. 16. 15½. 16. 19. 20. 25. 29 } Rocky Ground
8			W b S	—	—	Anchored with Stream Anchor in 28 } Rocky Ground
9			Tide E	2	—	
2			Slack Water	—	—	
3			Tide W	2	—	

Having weighed after noon, we ſtood for the channel within *Lantao*; there are *two*, made by an Iſland named *Cowhee*. N° 7. is a View of this Iſland coming from the Southward.—We paſſed the wideſt Channel, which is that to the *Eaſt* of *Cowhee*, but being dark we had not an Opportunity to be minute in our Obſervations. There is a Rock juſt above Water off the *Eaſtern* Point of *Cowhee*, and a *ſmall Iſland* cloſe to the South Point. On the oppoſite Shore to the *Eaſtward*, there is a very remarkabla *Gap* in the Cliff. We deepened our

Water

1764. Nov. 19. Water as we approached the Channel, and had upwards of 20 Fath. rocky Ground in it; according to the Pilot's Account there is *deeper* Water in ſome Places, and ſtrong Eddies; he deſcribed the *Iſland Side* to be moſt *rocky*; the narrow Channel he informed us had the ſame Kind of Ground and Depth, but the Tides are more rapid *. We drove through the large Channel with the Tide, and came to an Anchor in the Night within the Point, from whence we weighed again before Day-light in the Morning.

H	Weather	Wind	Courſe	K	F	Soundings
6	Weighed	E b N				
7			W b N			28 to 20 to 16½ rocky Gr.
8	Anchored in 6 Fath.					16 gradually to 6 coarſe Sand and broken Shells
9			Tide E b S	2		

After doubling the Point of *Cowhee* there is, to the Northward, a deep Bay with a Village at the Bottom of it; and, 'tis ſaid, there is a Channel out this way to the Eaſtward for ſmall Veſſels.

To the Weſtward of a Point on that Side are two other Vallies with Houſes and Cattle, but in general the Land is very barren, being ſandy Hills and craggy rocks.—The iſland *Cowhee* has ſome cultivated Vallies and Houſes, but we did not perceive any from the Sea.

In the Forenoon the Tide being done we anchored in 6 Fath. Sand and broken Shells.

About 11 A M having hired one of the Boats, attending the Pilot, for a Dollar, I went in it with Capt. Alves to *Cowhee*.

The Bearings from our anchoring off Lamma in 6¼ to our anchoring this Day in 6 Fath. were,

* From the Top of *Cowhee*, whither I went next Day, Appearances were very conformable to the Pilot's Report; though it does not ſeem impracticable to paſs either Channel.

19th

19th P M.

1764. Nov. 19.	R Ext. Nakow-Chow Iſlds. & L Ext. Taipak	N 43.	— W
	L Ext. Chong-Chow, and higheſt Part of Chi-chow	W 33.	30 S
	L Ext. Nakow-Chow, and Lantao Peak	W 3.	30 N
	R Ext. Chong-Chow Iſlands and L. of a high Iſland and diſtant Hummock Iſland	W 17.	30 S
	R Ext. of that high Iſland and Nakow-chow	0.	45
Soundings	R Ext. Lamma & R Ext. E. Lema in View	N° 5. S	18. — E
5½	D° and rocky Pt. Lamma		17. —
	R Ext. W, Nakow-Chow, and L Ext. E, Nakow-chow	W	13. — N
5½	R Ext. S°, Chong-Chow and Chichow	W	35. 30 S
6	L Ext. Lamma and R Ext. Fanchin-Chow	E	33. — S
6½	R Ext. Pſang-Chow and Entrance Point	N	23. — W
	Lantao Peak and L Ext. E, Nakow-Chow	W	3. — S
	N. E. Coaſt of Lamma	E	43. — S
	L Ext. Pſang-Chow and Siupak	W	28. 30 N 20. 30
	D° and R Ext. Taipak		20. 30
	L Ext. High Iſland and L Ext. W, Nakow-Chow	W	34. — S
	R Ext Nakow-Chow Iſlands		16. —
	L Ext. Pſang-Chow and Peak, Taipak	W	4. — N
	D° and L Ext. D°	W	3. — S
	L Ext. N°, Chong-Chow and R Ext. S°, Chong-Chow	S	42. — W
	R Ext. Pſang-Chow and R Ext. Taipak	W	8. 30 N
	D° and R Ext. Siupak		8. —
	D° and L D°		3. 30
	L Ext. D° and a Point on Lantao Iſland	W	16. 30 S
	R Ext. D° and Peak Taipak		4. 45
8½	D° and L Ext. D° and Lantao middle Peak		14. 30
	L D° and R Ext. W, Nakow-Chow		23. —

L Ext.

1764. Nov. 19. Soundings

9½	L Ext. Pſang-Chow and R Ext. E, Nakow-Chow	W	32.	— S
10	R D° - - and a Point on Lantao Iſland -		22.	—
10	L Ext. W, Nakow-Chow and R. Ext. N°, Chong-Chow - - - - - - - - - -	S	42.	30 W
10½	L Ext. Pſang-Chow and L Ext. E, Nakow-Chow - - - - - - - - -	W	43.	30 S
11	Peak Taipak } and Siupak - - - - - -		16.	30
12½	D° - - - } - - - - - - - - - -		23.	30
	R Ext. Typakhow and L Ext. Lamma - -	S	31.	45 E
	R Ext. Pſang-Chow & L Ext. E, Nakow-Chow	S	37.	— W
12½	L D° and L Ext. Chang-Chow - - - -		27.	45
12½	R D° and L Ext. W, Nokow-Chow - - -		29.	—
	R Ext. Siupak - and L Ext. Taipak	W	38.	30 S
13	L D° and R Ext. W, Nakow-Chow - - -		45.	—
	L Ext. Pſang-Chow and Peak of Ling-ting -	S	13.	45 W
16¼	R D° and L Ext. Chang-Chow - - - - -		21.	30
	L Ext. W, Nakow-Chow and L Ext. E, Nakow-Chow - - - - - - - - - - -		27.	—
20	R D° and L Ext. Taipak - - - - - - -		39.	—
19½	R Ext. Pſangchow and Ling-ting Peak - -		13.	—

19th A M

	N° Entrance Point and L Ext. Iſland - - -	W	7.	— N
	D° - - - - and farther Pt. - - - - -		8.	—
	R Ext. *Little Cowhee* and Pt. of Lantao, which forms the narrow Channel - - - - - -	E	32.	30 S
Rocky 20	L Ext. Cowhee - - - - - - - - - -	E	5.	— N
	R D° - - - and Point on Chinfalo -	E	25.	30 S
	N°. Entrance Pt. & Iſland between it & farther Pt.	W	16.	— N
	This has ſome Rocks without it, and a Point within, ſeeming to form a deep Bay between it and *farther* Point.			
	N°. Entrance Point 1′ Diſt. and *two* Points beyond the fartheſt 6′ Diſt. - - - - - - - - -	E	15.	— N

R Ext.

1764. Nov. 19. R Ext. E. Botow - - and R Ext. W. Botow W 26. 30 S
R Ext. W. D° - - and S°. Extreme Point 27. —
N°. Entrance Pt. - - and N° Pt. Chinfalo E 8. — N

19th Nov. 1764, Sunriſe. At Anchor in 6 Fa. Sand and Shells.
The View N° 16. was taken, the Bearings were

* L Ext. Tſa-chow, n, - - - - - - - W 6°. — S

R 2. 35 - - o
4. 25 - - p } Tſa-chow Iſlands 6 or 7 Diſt.
5. 50 - - q
7. — - - r
15. 40 - - s L Ext. Loonkoo
19. 50 - - t *Obſervation* Point
20. 15 - - u Peak of Loonkoo
45. 40 - - Peak miſtaken for Lintin
47. 20 } - - Rock
50. 5 }
50. 40 } - - Iſland
58. 50 }
64. 50 - - - Point
L 21. 5 - - m R Ext. of Long Iſland } called Chulapko
22. 30 - - l R Ext. Ragged Iſland }
23. 30 - - k R Ext. W Brother 2′ Diſt. } called Botow
29. 50 - - i R Ext. } E. D° 1
38. 30 - - h L Ext. }
40. 10 - - - Pt. 5′ Diſt. and Peak g on Lantao Iſld
43. 50 } - ff Rock Tyſa
45. 30 }
47. 25 - - L Lantao Peak Alt. 3°. 40′
58. 15 - - - E Peak
61. 30 - - - Point 4′ Diſt.

1764. Nov. 19.

L 79°. 5′ } Iſland
84. 30 }

* 2d - L Ext. Cowhee D - - - - E 3°. 30′ N

L 2°. 40′ (a) N°. Entrance Point, called Talanko
45. 15 Ragged Point
R 10. 20 (b) E. P Lantao

42. — } Iſland
45. 30 }

50. 10 Point

Having ſet out about 11 A M in a Chineſe Boat for *Cowhee*, we rowed in with the Hill near the L Ext. where we landed at a Net-hut and walked up the Hill, but not having a diſtinct View of the Iſlands without *Lantao*, we went acroſs the Iſland to the *higheſt Hill*, which is near the *ſouthern* Part of *Cowhee*: There are ſeveral Vallies and ſome Houſes, the Land well cultivated and extremely pleaſant: The Chineſe Man belonging to the Boat accompanied us, and, before we reached the Hill we were attended by a dozen of the Country People, who ſhewed great Curioſity, but no Rudeneſs, on the contrary one voluntarily held the Top of the Compaſs-box, whilſt I drew a View of the Iſlands upon it; this View is N 4 (Vide Page 20.)—All of them were very officious in their Civilities.

Having taken the Bearings we returned to the Shore, and embarked at a ſandy Bay on the *Weſtern* Point, where there is a *Joſs-Houſe*, at which the Boat-man paid his Devotions to *his* Chineſe *Virgin-Mary*, the Idol being a Figure of a Woman, but rudely executed.—There is a fine Spring of freſh Water at the Bottom of this Bay; and ſome *Guavoe* and *Caldera* Buſhes at the *Joſs-Houſe*. The Iſland is covered with dry Graſs, there are very few Shrubs ſome a kind of Sorrel, the Leaves of a very pleaſant Acid; others the Berry which grows

on

1764. Nov. 20. on the Iſlands near Macao, but here the Fruit very few in Number.

From the Hill whence our Bearings were taken although we ſaw Loonkoo and ſome of the Iſlands, *Lantao* Peak and the Points on the N W Side were not viſible ; but from the other End of *Cowhee* the extreme was nearly in one with the *two* Points *like* if *not* Iſlands and the diſt. Point.

Returning towards the Ship, we landed on what was the Extreme from our anchoring in 6 Fath. (marked t in View N° 16.)—To the *Eaſtward* of the Point, is a fine ſteep ſandy Beach, where we landed and took the Bearings from the Rocks above the Point (vide View N° 17.) The Beach on both Sides is ſmall Gravel.—Beyond the Point which was the Extreme from hence, there is a very rocky Point, but not high, and within it, ſeemingly, a good Cove for Boats.

Aſhore on *Obſervation* Point 20th Nov. 1764. View N° 17.

* L Ext. Tſa-chow, n, - - - - - - W 26°. 30' S

R	1. —	a	Tſa-chow Iſlands
	5. 10	b	
	6. 20	c	
	7. 30	d	
	9. 30	e	
	11. 30	f	
	12. 40	g	
	14. —	h	
	18. 20	i	
	19. 20	k	
	22. 40	l	
	31. 30	m	Loonkoo
	36. 10	o	
	38. —	p	
	40. 50	q	
	42. 30	r	

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R 43. 20 - s L Ext. Lintin
45. — - t Point
46. 30 - u Peak of Lintin
55. 30 - - Bottom of Bay
L 25. 25 - 1. R Ext. of Lantao Iſland * 2d

* 2d 1. R Ext. Lantao Iſland.

L 3. 50 - 2.
6. 50 - 3.
8. 20 - 4.
10. — - 5. } Iſland
13. 10 - 6. }
14. 30 - 7. R Ext. Long Iſland
27. 40 - Lantao Peak
27. 40 - 8. } Like an Iſland
31. 45 - 10. }
30. 55 - 9. Peak of Long Iſland
36. 50 - 11. }
38. 50 - 12. } Ragged Iſland - - } Chulapko
41. 50 - 13. }
43. — - Lantao E. Peak
68. — - 14. } W. Brother or Botow
73. 20 - 15. }
79. — - 16. Tyſa * 3d
80. 50 - A Point
86. 15 - 17. } E Brother or Botow
94. — - 18. }

* 3d Tyſa.

L 18. 10 - Point
25. 25 - Peak

1764. Nov. 20.

L	26. —	} Iſland	
	27. 20		
	38. 15	Entrance Point	
	38. —	Obſervation Hill on Cowhee	
	41. 35	N°. Entrance Point	
	43. 15	Point	
	45. 25	Ragged Point	
	49. 30	Point	

It was dark before we got up with the Ship, which was at Anchor in 17 Fath.

H	Weather	Winds	Courſe	K	F	Soundings
1	Hazey	S E	Weighed	—	—	From 6 Fa.
2	—	—	W ½ N	—	—	6. 6. 6½. 7. 7½. 7½. 7¾ Sand
3	—	W b N	S W b S	—	—	8. 8½. 9 ſtiff Clay
4	—	—	N b W	—	—	9½. 10. 11. 12. 12½. 13. 13½ } Mud
5	—	S W b S	N W b W	—	—	14. 15. 16. 16½. 17. anchored }
6	Tide	—	NNW	2	—	
9	Slack Water	S S E	—	—	—	
10	Tide	—	S S E	2	—	
4	Slack Water	—	—	—	—	
6	Tide	—	N N W	—	—	
7	Weighed	N E b E	—	—	—	
8	—	—	N b W	—	—	17. 16½. 16. 15. 14. 13. 12. 11. 10. 9½. 9. 8¾
9	—	N E	N N W	—	—	8. 7½. 7¾. 6¾ 6¼. 6¼. 6½. anchored
11	Tide	—	SSE ½ E	1	4	

Sunriſe 20th Nov. 1764. At anchor in 17 Fathom Mud.

View N° 18.

* Great Mew - - - - - - - - - - N 38°. 30′ W

R	15. 10	-	f L Ext. } Peaked Singan	s	(in Chart) 4′ or 4′ ½ dif.
	15. 30	-	s Peak }		
	17. 30	-	r Hummock Singan -	r	
	20. 35	-	t Peak of Great Singan -	t	
	22. 40	-	e R Ext. D°		

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24. 25	-	d	4′ diſtant - - - - - -	Caſtle Land
35. 10	-	p	Peak - - - - - - - -	
37. 40	-	c	3′ diſt. - - - - - - -	
53. —	-	w	diſtant Gap-Mountain, beyond	
53. 30	-	b	3′ or 4′ diſt. - - - - - -	
67. 10	-	a	3′ or 4′ diſt. - - - - - -	

To the Right of this, Land at a Diſtance in the Bottom of the Bay,

88. 50	-	z	Point 5′ or 6′ diſtant	
94. 10	-	y	Point 2′ ½ diſtance	
		x	Point 1′ ½ or 2′ diſtant -	E 28°. 30′ N
			Point 1 - - - - - - - - -	20. 30
L 1. 15	-	g	Little Mew	
34. 15	-	h	R Ext. * 2d	Lintin 2 ½ or 3 diſtant
44. 10	-	i	Peak Alt. 2°. 25′	
52. —	-	k	L Ext. - -	

* 2d. R Ext. Lintin

L 86°. 45′	-	l	diſtant Land * 3d, ſuppoſed Longſhitow	

* 3d Diſtant Land, ſuppoſed Longſhitow.

L 0. 25	-	1.	R Ext.	Loonkoo Iſland ¾ or 1′ diſtance
3. 10	-	2.	1ſt Peak	
18. 20	-	3.	Gr. Peak	
21. 35	-	4.	L. Ext.	
21. 35	-	4.	- -	Tſa-chow *Gap* Iſland
23. 10	-	5.	Gap	
24. 45	-	6.	- -	
24. 45	-	6.	- -	*Peaked* Tſa-chow
25. 40	-	7.	Peak	
27. 25	-	8.	- -	
33. —			Lantao Peak Alt 3°. 10′	
33. —			Iſland ſet from Point laſt Night	
39. 15			Point	

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42. 40	Long Iſland	Chulapko	
54. 20			
54. 20	Ragged Iſland		
57. 10			
67. 25	W. Brother or Botow		
69. 45			

72. 50 Extreme Point from *Obſervation* Point laſt Night

After Sunriſe weighed, and anchored again in the Forenoon, the Tide being done.

A M

Soundings

L Ext. Loonkoo and Peak of Tſa-chow S 6°. 45′ E
D° - - and L Ext. D° - - 10. —
12 Fa. R D° - - - and Ragged Rock S 6. 30 W / 5. 15
Lantao Peak and Rock off Loonkoo - S 13. — E
D° - - - and L Ext. Loonkoo - - 13. 45
8 Mud * Lantao Peak and Peak of Loonkoo S 14. — E
R 99. 40 Lintin Peak
Pt. and L Ext. W. Brother - - - E 43. 30 S
6 ¾ * Lantao Peak - - - - - - - S 14. 15 E
R 75. 30 Lintin Peak

Anchor in 6 ½ Fathom Mud. View N 19.

* Peak of Iſland off W End Lantao Iſland S 3°. 30′ W

L 107. 40	Point	
83. 45	Falſe Lantao - - - -	Alt. 2°. —′
56. 45	Peak miſtaken for Lintin	Alt. 2. 40
43. 15	Pt. - - - - - - - -	1.
39. 10	- - - - - - - - -	2.

1764. Nov. 20.	34. 45 } 33. 45 }	Chulapko	{ 3. { 4.	
	33. 35	L Ext. Long D° - -	{ 5. { 6.	
	27. 30	- - - - - - - - - -	7.	Alt. 2°. 5′
	27. 10	R Ext. Long Iſland - -	8.	
	23. 30	- - - - - - - - - -	9.	
	21. 50	L Ext. Loonkoo - - -	10.	
	21. —	- - - - - - - - - -	11.	
	19. 10	Lantao Peak - - - - -	12.	Alt. 2. 15
	18. 30	- - - - - - - - - -	13.	
	17. 30	- - - - - - - - - -	14.	
	16. 45	GapRock at R Ext. Loonkoo	15.	
	12. 25	Rock - - - - -	16.	
	6. 10	- - - - - - - - - -	17.	
	2. —	- - - - - - - - - -	18.	
	1. 15 }	- - - - - - - -	{ 19.	
R	0. 50 }		{ 20.	
	1. — }	- - - - - - - - -	{ 21.	
	1. 30 }		{ 22.	
	2. 15	Peak of Longſhitow -	23.	
	4. 10	R Ext. D° - - - -	24.	
	5. 50 }	- - - - - - - -	{ 25.	
	6. 50 }		{ 26.	
	7. 25	Gap of Laf-ſammee -	27.	
	10. 15	Gr. Ladron Peak - -	28.	Alt. 0. 20
	19. 10 } 21. — }	Chang-chow, &c. -	} 29. 30.	
	30. 45	L Ext. Lintin - - -	31.	
	44. 10	Peak - - - - -	32.	Alt. 2. 50
	53.	- - - - - - - - -	33.	
	60. 10	R Ext. * 2d - - -	34.	

* 2d

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* 2d R Ext. Lintin.

R	63. —	Little Mew	* 3d -	35.
	64. 10	Great Mew	- - -	36.
	94. 30	Peak of Peaked Singan		38.

* 3d Little Mew.

R	31. 40	L Ext. - - - - -	37.	Peaked Singan s
	32. 50	Peak - - - - - -	38.	
	35. —	R Ext. - - - - -	39.	
	35. —	- - - - - - - - -	39.	Hummock D° r
	37. 20	- - - - - - - - -	40.	
	38. 30	- - - - - - - - -	41.	
	42. 40	Peak - - - - -	42.	Great D° t
	47. 5	- - - - - - - - -	43.	

Point on Caſtle Land	a - - -	E 23°. —	N
	b - - - -	25. 30	N
	c - - - -	32. —	
	d and Caſtle Land Peak	N 31. —	E
	Extreme - - -	13. 30	

Nov. 21.

H	Weather	Winds	Courſe	K	Soundings
2½	Hazey	S W	Weighed	—	
3			N W	—	6. 6. 6. 6. 6½. 7. 7½ Sand and Mud
4		Variable		—	8. 6. 6. Sand and Mud, 5¾ coarſe Sand, ſmall Stones and broken Shells
5			N W b W	—	5½. 5¼. 5. 4. 3½. 3¼. 3¾. 4 D°
5½	Anchored in 3¾ coarſe Sand and Shells				
10	Tide S E			2	
7	Weighed			—	Checking to the Eaſtward into deeper Water
8		N N E	E S E	—	3¾. 4. 3¾. 4. 4. 4¼. 4½ Sand and broken Shells
				—	
				—	5. 5. 5½. 5½ Sand and Ouze
9			N W b W	—	5¾. 6 6
10		Calm		—	6¼. 6. 5½. 5.
11	Anchored in 4½ Sand, Ouze and Shells				4¾. 4½.

Various Soundings, ſometimes Sand and Shells, ſometimes Mud

H Weighed

1764. Nov. 21. Weighed in the Afternoon, with a feint breeze and young Flood, we drove but little to the Weſtward of the *Singan* Iſlands, which we paſſed within a Quarter of a Mile in 6 and 8 Fathom Mud. After Sunſet, being near the Situation of the *Eaſtern* Bank, on ſome Part whereof there is only 2 Fathom according to the Draught, we ſhoalend to 5 and preſently to 4 Fathom coarſe Sand, a little to the N W, the Boat having only 3 Fathom; upon this we anchored, and ſent the Boat to ſound in-ſhore.—They found the *Sand* Soundings continued a conſiderable Way, but the Water deepened gradually to the Eaſtward, and in-ſhore, at about a Mile Diſtance from the Ship, they had 6 Fath. Mud. Returning from the Northward aboard they again found the *Sand-bank*, which ſhoalend as they approached the Ship.—This evinced that we were, as I had imagined, too far to the Weſtward, being by our Bearings on the *Eaſt* Bank.

The Pilot *Yafou* had informed me, that what is named *Lintin Bar* was no *Bar*, but only ſome *Banks* over which they carry the Ships; but the only Draught in which I ever ſaw them laid down is a MS Engliſh Draught of Canton River, which I received at Canton, in 1760, from Captain Smith, of the Ct. Molke, a Daniſh Indiaman; this Draught ſeems to be originally Dutch, and is far from being exact, though I think preferable to that in Du-Halde.

In the Afternoon the following Bearings were taken.

Soundings		
	R Ext. Loonkoo and Rock -	S 14°. 45′ E
	D° - - and Lantao Peak -	16. 45
6 Fath.	Little Mew and Great Mew -	W 24. 15 N 18. 45
	R Ext. Hum and R Ext. Great Singan Iſland - - - - -	N 25. — E
		R Ext.

1764. Nov. 21.

Soundings.			
	R Ext. Lintin and Montania Peak	S 39°. —′ W	
	L D° D° and Gr. Ladron Peak -	11. 15	
8 Fath.	L Ext. Hum. and Peak of Gr. Singan Iſland - - -	N 23. — E	
	R Ext. Peaked Singan and S° Point Singan Bay - - - -	E 14. 30 N	
	R Hum. D° and Peak Caſtle Land	E 16. — S	
6½ Fath.	R Ext. Great and L Ext. Peaked Singan Iſland - - - - -	E 12. 30 N	
	D° - - and ſo P^t. Bay - -	7. 30	
	R Ext. Peaked and R Ext. Hum Singan Iſland - - a -	E 33, — S	
	D° - - and Outer P^t. Singan	37. —	
5 ½	Great Mew and Montania Peak	S 34. —′ W	
5 ½ Mud	Great Mew - - - - - - - - -	28. 30	
	Lintin Peak - - - - - - - -	8. 30	

At Sunriſe in the Morning at Anchor in 3¾ Sand. View N° 20.

* - - - - - - S 4°. —′ E

R	5°. 15′	L Ext. * 2d Lintin	- - - - -	1.
	11. 30	Peak	- -	2. Alt. 1°. 30′
	23. 20	R Ext.	- - - -	3.
	25. —	Great Mew	- - - - -	4.
	32. 40	Little Mew	- - - -	5.

* 2d L Ext. Lintin

R	33. 5	Montania Peak	
L	1. 25	Peak of Longſhitow	
	4. 15	Ext. of Lantao Iſland	
	19. 50	Lantao Peak - - - - - - - - -	1. 30
	21. 25	R Ext. Tſa-chow	
	22. — 23. 30	Loonkoo	
	25. 30	E Peak Lantao	

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L	32. 30		Entrance Point
	34. —		Point
	35. 40	}	Peaked Singan
	38. —		
	42. —		
	42. —	}	Hum. Singan
	43. 45		
	43. 40		Peak miſtaken for Lintin
	47. 45		S° Pt. Caſtle Land
	50. 20		Caſtle Land Peak
	58. 20	}	Great Singan Iſland
	63. 35		
	78. 25		
	85. 30		S° Pt. Singan Bay * 3d
			* 3d S° Pt. Singan Bay per Compas E 5°. 15′ S
L	48. —	}	Flat Singan - - - W
	52. —		
	55. —	}	N° Singan
	60. 50		
	62. 50	}	Great N° Singan
	75. 25		
	89. 40		Point
Reef Iſland - -		{ N 5°. 45′ W 8. —	
Reef - - -		10. 30	

After Sunriſe weighed and ſtood in-ſhore, but driving with the Tide to the Northward, we were a long time in getting off the Sand-bank, though we preſently deepened to 4 Fathom, which we ſcarce increaſed till almoſt off the Bank; when we got into *Mud* Soundings, we wore and ſtood to the Northward, paſſing *Reef Iſland*, within leſs than ½ a Mile Diſtance in 5 Fathom Mud; having altered our Soundings to *Mud mixed with Sand and Shells*, and ſhoalend ſometimes to 4 ½ Fathom,

1764. Nov. 21. them, very irregular from *Mud* to *Sand and Mud*, and then *Mud* again for a long Time. The Bearings will expreſs the Places better than many Words.

About 10 A M we came to an Anchor in 5 Fathom Mud and Shells, the Tide being done, and a light Breeze blowing down the River.

Off *Reef Iſland* were vaſt Numbers of Fiſhing-boats, ſome of which came off, and, as we underſtood from their Signs, offered to pilot us, but we did not employ any of them; there were alſo many Bamboe Logs or Catamarans with a Maſt and Sail and a *Lee-Board*, the Bamboes were remarkably thick and ſhort jointed; they all had a Cott-frame and Bed abaft the Maſt.

In the Forenoon the following Bearings were taken:

4 Fa. Sand	* R Ext. Peaked Singan and Extreme Point - - - - -	S	31°. 30′ E
	R 52. 50 Great Mew		
5 Sand	* Lantao - - - - - - - - -	S	18. — E
	R 26. 20 Lintin Peak		
	41. 10 Gr. Mew		
	R Peaked Singan an E Lantao Peak	S	23. 30 E
5 ¾ -	R Great D° and S° Pt. Caſtle Land	S	42. 30 E
5 ¾ Mud	* Lantao - - - - - - - - -	S	19. — E
	R 26. 35 Lintin Peak		
	41. 50 Great Mew		
4 ½ Sand	* Lantao Peak - - - - - - -	S	15. 30 E
	R 37. 50 Great Mew		
	26. 40 Lintin Peak		
	R Ext. Lintin and G. Mew - -	S	18. 15 W
4 ½ Mud	* Lantao - - - - - - - - -	S	16. 45 E
	R 34. 50 Great Mew		
	24. 50 Lintin Peak		

R Ext.

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R Ext. Great N°. Singan and R N°. Singan E 39. —N
R D° and R Flat D° - - - - - - 27. —
L Great Singan and Peak Caſtle Land E 42. —S
R Lintin and Little Mew - - - S 15. —W
6 Mud — R Reef Iſland and L Great North Singan ½ Diſt. - - - - - - - E 15. 30 N
L D° - - and D° - - - - - 13. 30
5 Mud — * Lintin Peak and Great Mew - S 1. 30W
L 20. 20 Lantao Peak
L Reef Iſland and R Great Singan E 12. 30 S
Lintin Peak and Little Mew - - S 1. 30 E
5 — L Lintin and R Lantao and Gr. Mew 6. —
5 — R D° and Gr. Ladron Peak - - - S 16. 15W
4¾ Sand — * Lantao Peak - - - - - - - S 18. 45 E
R 12. — Gr. Mew
17. 10 Lintin Peak
4½ Mud, Sand & Shells — * Lantao Peak - - - - - - - 20. 45
R 16. — Lintin Peak
26. 15 Gr. Ladron Peak

At Noon at Anchor in 5. Mud and Shells.

47°. 18′ Z D 42°. 42′ Decl. 20. 3. Lat. O 22°. 39′ N

At Anchor in 5 Fath. View N° 21.

* R Ext. Lintin - - - - - - - - S 3°. 45′ W
L 8. 20 Peak D° - - Alt. 1°. 15′
11. 10 Little Mew
12. 10 L Ext. Lintin
14. 15 Gr. Mew
24. 20 Lantao Peak - - 1. 25
26. 30 } Loonkoo
28. 15 }

1764. Nov. 21.	L	29°. 30′	E Lantao Peak	-	Alt. 1°. 15′	
		35. 40	Ext.			
		36. —	Point			
	1.	37. 20	R Ext. }			
	2.	38. —	Peak } Peaked Singan	- - -		s
	3.	38. 20	L Ext. }			
	4.	39. 20	L Ext. Hum. Singan	- - -		r
	5.	42. 45	R Ext. }			
	6.	45. 30	Peak } Great Singan	- - -		t
	7.	47. 30	L Ext. }			
		44. 40	Peak miſtaken for Lintin	Alt. 1. 15		
		49. 20	Caſtle Land Peak	- -	1. 20	
	8.	51. 20	Reef off Reef Iſland			
	9.	52. 40 }	Reef Iſland	- - - - - - -		u
	10.	54. 40 }				
	11.	62. 50 }				
	12.	66. 35 }	Great N°. Singan	- - - - - -		v
	13.	70. 15 }				
		67. —	Falſe Lantao	- -	1. 20	
	14.	82. 25 }	R Ext. and Diſtant Peak			
	15.	85. 20 }	Flat Singan	- - - - - - -		w
	16.	87. 40 }				
	17.	88. 45 }	N°. Singan			
	18.	92. 40 }	x	- - - - - -	per Compas E 0°. 45′ S	
	R	2. —	Gr. Ladron			
		25. 15	Montania Peak			
			* 2d L Ext. N°. Singan	- -	E 0°. 45′ S	
	L	92. 30	Ext. Point on E Side			

At

1764.
Nov. 22.

At 4 PM weighed with the Wind at S S W.

H	Winds	Courſe	K	Soundjngs	
5	S S W	N W	—	4. 5. 4½. 5½. 5¼. 5. 5¼. 5½. 6. 6½. 6.	Some caſts
6	———	NW ½ W	—	6. 6. 6. 6¼. 6½. 6¾. 7. 7. 6¾. 6.	hard, ſome ſoft
7	———	———	—	7. 7½. 8. 8½	Mud
8	Calm	———	—	9. 9. 9½. 10. 10. 10½	Mud
9	Anch. in 10½ Fa.		—		
10	Tide	N N W	2		
7	Weigh'd				
	N E	N N W	—	10½. 9. 7. 7. 6½. 7. 6. 5. 4½. 4¾. 5. 5¼. 4. 4. 4½. 5	

P M the following Bearings were taken.

4. Mud R Ext. Lintin and Little Mew - - S 8°. 45′ E

5 D° {
* Lantao Peak - - - - - - - - - 21. —
R 6. 30 Gr. Mew
14. 5 Lintin Peak
26. — Gr. Ladron Peak

6½ D° {
* Lantao Peak and Gr. Mew - - - 23. 15
R 9. 20 Lintin Peak
25. 30 Gr. Ladron Peak
L 12. 55 Peak of Peaked Singan
20. 30 Peak of Caſtle Land and Reef Iſland

At Anchor in 9 Fath. Mud, Sunriſe 22d Nov. 1764, near the Boca Tigris. N°. 22.

* Lintin Peak - - - - - - - - - S 24°. —′ E
L 3°. 20′ Lantao Peak
6. 25 E D°
14. 50 Peak miſtaken for Lintin
29. 25 Falſe Lantao
1. R 3. —
2. 4. 30
3. 5. 15
4. 6. 40

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5.	R	12. 10	
6.	-	15. 50	
7.	-	20. 10	
8.	-	22. 30	
9.	-	23. —	
10.	-	25. —	
11.	-	26. —	
12.	-	29. 10	
13.	-	31. —	
14.	-	33. 25	
		64. 40	Fiſhing Stakes
		66. 10	

* 2d L Ext. of Land on E Side of Boca-Tigris N 28°. —′W

27.	L	7. 40	R Ext. Tyger Iſland
26.		8. 30	
25.		10. —	Tree Fort
24.		11. 5	Gap of Tyger Iſland
23.		13. 15	
22.		14. —	
21.		17. 30	
20.		26. 10	
19.		37. —	
18.		54. 30	
17.		58. —	
16.		60. 19	
15.		62. —	
28.	R	2. 45	Caſtle
29.		5. 10	Hill above it
		41. —	Little Iſland * 3d
		44. —	2d Point 3 or 4′ Diſt.
		51. 30	3d D° - 1′
			* 3d Little Iſland
	R	74. 20	4th Point or R Ext. 1′ ½ Diſt.

1764.
Nov. 22. 22d Nov. 1764, weighed after Sunrise.

Soundings

7. Fa. Island 1st Point and R Ext. Fishing Stakes N 25°. —′E
7. 2d Point - and D° - - - - - - E 33. 45 N
Point (in one with Hill) and Island - { S 36. 15 W / 29. — }
8. R Castle Island and R Tyger Island - N 38. — W
10. D° - - and Gap D° - - - - - - 43. —
14. R Castle Rock and R Tyger Island - - 40. 30

The *Southern Land*, on the *East Side* of the *Boca-Tigris*, is an *Island*, seemingly with a deep Channel. There is a flat Rock off *Castle Island*, probably joined to it by a Reef, which we rounded very near in 17 Fathom; and in passing Tyger Island, the Tide hustling us to the Eastward, we had one Cast scant 3 Fathom, owing to our being too far from the Island. After we passed the Boca-Tigris some Chinese Officers came aboard, and took down an Account of the Ship's Name. Number of People, and warlike Stores.

Having now got to the Boca-Tigris, the Explanation of the Draught ends. I shall however add the Bearings taken from one Station within the Boca-Tigris, as it may be assistant to somebody else, though I have no other Materials to use with them.

Sunset 23d Nov. 1764, at anchor in $\frac{5}{4}$ Fath. View N° 23.

* Lion's Tower - - - - - N 34°. 30′ W
R 5°. 45′ Lion's Pt.
18. 40 Two Danish Ships at anchor at 2d Bar
19. 50 } Low Island
72. 15 }
80. 40 Distant Tower

1764. Nov. 23.

	L	6. 45	Distant High Land	
		10. —	Low Island	
		73. —		
		11. 50	Little Tower on Hill	
		72, 10	Tower on distant Hill	
1		82. 45	R Ext. Island * 2d	
			* 2d R Ext. Island	
2	L	82. 50	L Ext. Castle Island * 3d	
			* 3d L Ext. Castle Island	
3	L	4°. 25′	Point on E Side	
		70. 50	Slangen Island	
		72. 10		
		80. 25		
		80. 10	Distant Peak	
4	R	1. 40	Tree Fort	
5		7. 15	L Ext. Tyger Island	
6		14. 15	Gap D°	
7		18. —	R Ext. D°	
8		26. 40	-	Island to Nd. of Tyger Island
9		40. 50	Peak	
10		51. 20	-	
11		66. 25	Island	
12		70. —		
13		76. 10	Little Island	
14		78. 20	L Ext. * 2d Island	

I shall also give a View of Lintin and the Nine Islands, taken 7th April 1760, from the Typa.

Sylock - - - - - - - E 10°. — N

View N° 24

1.	Yeali-tcheow - - -	N 34°. 10′	E
2.	Tong-kow-wan - - -	34. 40	

3.

3. 4.	Popau-tchow - - - -	N	35°. 30′ E 36. 40
5.	Heun-kow-tchow - - -		38. 10
6.	Tak-phoong-kong - - -		41. —
7. 8.	Taikow-tchow (2 Iſlands) -		41. 55 44. 20
9. 10.	Wang-Kow-tchow - -		45. 40 46. —
10.	L Ext. Lintin - - - -		46. —
11. 12.	Tſeang-tchow - - - -		46. 50 47. 35
12.	Lintin Peak - - - - -		47. 35
13.	R Ext. Lintin - - - - -		49. 20

FINIS.

JOURNAL

OF THE

CUDDALORE.

A

6

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ON THE

COAST OF CHINA.

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SCHOONER CUDDALORE 1759,

ON THE

COAST OF CHINA.

1759. Oct. 7. AT Noon Lat. O 22°. 30′ N 60 Fath. Fine Green ſand, having ſince 4 A M (when there was no ground 80.) run N W b W 23 K.

Oct. 8.

H	Weather	Winds	Courſe	K	F	Soundings
1, 2	Fair	NNE	W	8	6	55 Leſs fine green Sand
3, 4	———	NE	———	8	5	50 Leſs fine and ſomewhat greyiſh
5, 6	———	———	———	9	5	42 Grey Sand not very fine
7, 8	Hazey	———	———	10	—	40 D° - d° very fine
9, 10	———	———	———	10	—	33 Leſs fine bright grey Sand
11	———	———	———	4	5	31 D° not ſo bright
12	———	———	———	4	5	30 (Fine grey Sand)
1	———	———	———	4	5	30 Mixture of dark and bright Sand with Shells
2	———	———	———	4	4	30 Fine dark grey Sand
3	———	———	———	4	2	—
4	———	ENE	———	3	5	31 D° - d°
5, 6	Cloudy	———	———	8	2	33 D° - d°
7, 8	———	———	———	9	2	31 Fine bright grey Sand
9, 10	———	———	———	9	5	30 Fine Sand of a blackiſh grey colour
11, 12	———	———	W N W	11	5	30 D° - - of a bright grey colour

1759. Oct. 8. ☉ 61°. 39′ + 16′—5′ = 61°. 50′. Z D 28°. 10′ Decl. 5°. 44′ Lat. 22°. 26′ N

Oct. 9.

H	Weather	Winds	Courſe	K	F	Soundings
1, 2	Hazey	N E b N	N W b N	9	1	27 Fine dark grey Sand
3	———	N E b E	———	4	3	26 D° - d°
4	———	———	N W	5	—	24 Fine grey Sand and Shells

At 4 PM ſaw the Land of *China*, which we at firſt took for *Macuili-yu* and *Chienſiuen-ſe* of the Jeſuits map; but afterwards rather ſuppoſed it *Chienſiuen-ſe* and *Hie-che Point*.

At this time, and a little while before, we ſaw ſeveral fiſhing boats; thoſe we now ſaw amounted to about 100, were pretty large, and ſuch as we paſſed near had generally 6 or 7 people. All the Chineſe Fiſhermen I have ſeen, as well here as to the Weſtward, are ſtout robuſt Fellows, capable of hard labour, and well uſed to it.

At Sunſet 18 Fath. fine grey Sand - Vide View N 1.

1 ſuppoſed Chienſiuen-ſe - - N 7°.—′ E

2 - - - - - - } e { - - N 5.— W

3 - - - - - - } { - - 17.—

4 - - - - - - - - - - - 23.—

5 - - - - - d - - 26.—

6 - - - - - - - - - - 28.—

7 - - - - - - - - - - 31.—

8 - - - - - - - - - - 35.—

9 - - - - - c - - 36.—

10 - - - - - - - - - - 37.—

11 - - - - - + - - 38.—

12 - - - - - - - - - - 41.—

13 - - - - - b - - 45.—

14 - - - - - - - - - - 46.—

15 ſuppoſed Hie-che Pt. a - - 50.— being the neareſt Land, 5 or 6 Leagues diſtant.

The

1759. Oct. 9. The Horizon very hazey; High Land farther Weſtward ſeen from Maſt Head.

H	Weather	Winds	Courſe	K	F	Soundings
5	Hazey	E N E	N W	4	5	20 Fine grey Sand
6	——	——	——	4	5	18 D° d°
7	——	E	——	4	3	17 D° d°
8	——	——	——	4	—	17 Very fine d°
9	——	——	W	3	2	16½ Ouze
10	——	——	——	3	2	15
11	——	——	——	3	—	14
12	——	E b S	S b E	2	—	14½
1	——	——	——	2	—	16. 17. 17. 18
2	——	——	——	2	2	18. 18½. 19. 19
2½	——	——	——	1	2	19
3	——	E	N N E	1	—	19
4	——	E b N	N b E	2	2	18. 17
5	——	——	——	2	2	16½. 16. 15½. 15. 14½
6	——	——	——	2	2	13
7	——	E N E	W	1	—	13½
8	——	——	——	3	—	14
9	——	——	——	4	2	13. 12
10	——	N E	N W b W	4	3	12. 11. 10
11	——	N N E	N W	2	4	9. 8. 7. 7. 8 at 2 miles diſt. from neareſt ſhore bearing N E
12	——	——	——	2	2	8. 8

In the night we kept off and on, and found ourſelves in the morning to the Weſtward of *Hie-che point*; At Sunriſe the View N 2. was taken.

The Extremes in ſight from N 70°.—E
to W
A Point, Kin-nago - - - - N 5.—E 4′ diſt.

Vide View N 2.

1 - - - - - c - - - - - N 65°.—′ E
2 - - - - - - - - - - 63.—
3 - - - - - - - - - - 60.—
4 - - - - - d - - - - 58.—
5 - - - - - a - - - - 43.—
+
6 - - - - - b - - - - 23.—
7 - - - - - - - - - - 18.—

To

1759. Oct. 9. To the Eaſtward of *Kin-ngao*, between *it* and *Hie-che point*, there is a very *deep bay*, undoubtedly that of *Hie-che-tchin*; near the *Weſtern* ſide of it are two *Iſlands* or *rocks* not delineated in the Jeſuits Map, the one is of conſiderable extent, the other ſmall; they are marked 8 and 9 in the View.

The Letters refer to the ſame places as marked with thoſe Letters in the View N 1. at leaſt to what were ſuppoſed the ſame.

Near *Kin-nago point*, which is the *R. Ext.* of *another bay*, the Land near the ſea is in general low and ſandy, but behind that are many hills, and the *Inland* is very high, and towards the point, the Hills come down to the ſea; one of theſe Hills is made remarkable by ſome prodigious large Stones on the top of it, reſembling *Stonehenge*; theſe we at firſt imagined to be a *Town*.

Weſtward round the point, a little down the bay, there is a round *fort*, upon a riſing ground, near the ſea; this bay has in it *three* Iſlands with ſome rocks off each. The 1ſt Iſland is about $\frac{1}{2}$ a mile long, and has two rocks to the Southward. The 2d. is about a mile long, and has alſo two rocks to the Southward of it. The bay is deepeſt towards the *W. point* (12 in View) (which is that afterwards ſet from *Honghai*) the Coaſt here ſeems to be laid too much N°. and S°. in the *map*; the points were ſet in one S 84°.—E, in the map they are made N 53°.—E; however, the *Eaſt* point had ſome appearance of being an Iſland, in which caſe the largeſt of thoſe named Kin-ngao may be what was called the *point*, and conſequently the bearings little diſſonant; and the other Iſland may be that abovementioned: but then three others are omitted—in this caſe it would ſeem the *Fort* is on the largeſt Iſland *Kin-ngao*.

The

1759. Oct. 9. The following bearings were taken by hand with Azimuth Compaſs.

The Pt. marked + in view ſuppoſed *Hie-che-point*
and E point Kin-ngao Bay - - - - - - N 55°.—E,
The 3d Iſland (then imagined the *W. point*,
Kin-ngao Bay) and 1ſt. Iſland - - - - - N 61.—W
D° - - - - - and 2d. Iſland - - - - - { 60.— / 54.—
E. Point Kin-ngao bay and d point *Hie-che* - N 63.—E
1ſt. and 2d Iſlands in one - - - - - - - - 20.—
2d. Iſland and E Point Kin-ngao bay - - - 79.—
1ſt. D° - - and d° - - - - - - - - - 87.—
3d. D° - - and d° - - - - - - - - - S 83.—E
W. point Kin-ngao Bay and d° - - - - - 84.—

We ran along the coaſt all day, and had an obſervation at Noon in 22°. 46′ $\frac{2}{3}$ N, which makes the Coaſt much to the ſouthward of the *map*, as the W. point of *Kin-ngao* bay was nearly in the ſame parallel with us.

Vide View N 3.

The E. Ext. (which was W. Ext. at Sunriſe S 63°.—E
The neareſt the ſhoar - 4′ diſt. - N E
1 A remarkable White Spot about 9′ - - - N 23°.—W
2 Peninſula Point - - - - - 9′ - - - 38.—
3 Honghai Iſland - - - - - 9′ - - - 68.—
4 Hat Iſland - - - -
5 The W. Extr. (being Sing-ſoy Iſland) - - S 70.—W

☉ 60°. 55′ +16′—5′ = 61°. 06′ ZD. 28°. 54′ Decl. 6°. 7′ $\frac{1}{3}$ Lat. 22°. 46′ $\frac{2}{3}$ N

The *White Spot*, above-mentioned, is an excellent mark for the bay, in coming from the Eaſtward; it is a *ſand hill* viſible at

1759. Oct. 9. at a great diſtance, at firſt appearing like a *ſmoak*, but as you approach near, it ſeems to be a white Cliff.

Peninſula Point is the *E point* of the Bay of *Hai-hong*, and appears, till you are pretty near, like an Iſland, though joined by a *low neck* of *Sand* to a *round hill*, in ſuch manner as to form, on each ſide of this *neck*, a *ſandy bay*, which to appearance affords good ſhelter in the N E Winds.

Oct. 10.

H	Weather	Winds	Courſe	K	F	Soundings
1	Fair	S E	N W	1	—	7. Ouze
2	——	——	——	4	2	6½. 6
3	——	——	——	3	—	5½. 5
3½	——	——	——	2	—	4. 4. 4
4	——	SEbE	NEbE	1	5	4. 4. 3¾. 3½

At 4 P M anchored in 3½ Fath. Mud.

The Extremes in ſight - - - - - - -	{ S 55°.—E { S 45. —W
The E Point Hai-hong Bay 2′ diſt. - -	N 80. —E
The W Point d° - - 2. diſt. - -	N 80. —W
A Pagoda on a ſmall Hill up the bay - -	N 35. —E
Honghai Iſland 3′ diſt. - - - - - -	35. —W
Hat Iſland - - - - - - - - - - -	S 65. —

In the afternoon as we ſtood in for *Honghai* two Boats came aboard, both of them ſmall, with three men in each; The firſt made ſome difficulty of coming aboard, expreſſing, by ſigns, that it was not permitted; however, one man came up, and having given him a dram, they preſented us with ſome ſalt-fiſh; they immediately departed, expreſſing by ſigns, that they were going to buy fiſh: The other boat came freely aboard, and brought with them a very fine *pampelmouſe*, which they opened, and gave us the greater part. They ſeemed vaſtly pleaſed with every thing they ſaw, as indeed ſeveral

1759. Oct. 10. ſeveral other boats ſeemed to be, keeping cloſe to us for ſome time, though they did not come aboard.—The people who came aboard took notice of our *Compaſs*, of our *Sails*, which they felt with ſeeming admiration, and in ſhort of every thing—but above all, they were pleaſed with a *ſpying-glaſs*, which I had in my hand; curioſity prompted one to enquire what it was; being ſhewn its uſe, he look'd through it himſelf, and, expreſſing great aſtoniſhment and ſatisfaction, called to his comrades to look through, which they did with equal pleaſure, then the *Firſt* beged a *ſecond* and a *third* look, as did the others.—They were not leſs inquiſitive and curious about the veſſel, going every where, when permitted, making their obſervations.—Their complaiſance has been mentioned with great approbation, and indeed it muſt be confeſt *China* is the only Country where *Politneſs* can be expected in a *Fiſherman*: They never drank without firſt offering to us, and making their compliments; Travellers, who ſee *Canton* and its *neighbourhood* only, form a very wrong idea of the Chineſe, if a Judgment may be paſſed from what we ſaw.

We anchored off the *Peninſula Point* in the Evening, and next morning ſeveral boats came aboard, with a kind of *ſweet meat puff* for ſale, having bought ſome of theſe, I endeavoured to explain to them that I wanted ſome *fruit*, which I did by the plates in Nieuhoff.—They viewed theſe with great pleaſure, and immediately conceived my meaning.—After breakfaſt we deſired them to carry us to *Honghai*, which they immediately and freely aſſented to; we went along with them intending to obſerve the Latitude and take the Bearings from thence.

They landed us at a ſmall *ſandy cove*, in which they told us was 5 Fathom, This place is *land-locked*, in Water deep enough

1759. Oct. 10. enough for a larger veſſel than the Cuddalore (100 Tons) but in that ſituation is too ſmall to ride in.

They conducted us to the Top of *Honghai*, and ſtaid with us whilſt we took the bearings, taking great notice of our proceedings, and underſtood them ſo much as to tell us the 4 Cardinal points, and to expreſs that there was no land to the S°.

The Bearings were,

The 2d. Iſland off W. Point Kin-ngao bay	S	65°.	15′ E
3d. D°. - - - - - - - - - - -		67.	15
Rocks off it			
1ſt. - - - - - - -		68.	20
2d. - - - - - - -		69.	5
3d. - - - - - -		70.	—
W. point of Kin-ngao bay - - - -		71.	20
Bottom of E. Bay - - - - - - - -	N	82.	15 E
Pt. near the bottom of that bay - - - -		85.	—
White Spot - - - - - - - - - - -		59.	45
The Pt. next it Wd. at the R Ext. of Sandy Beach		55.	20
Peninſula Pt. making, with the laſt, a *ſandy bay*	N	47.	— E
Pagoda, or ſmall Tower on the top of Peninſula Hill		45.	30
L. Ext. of Peninſula being in one with R Ext. of *round Hill* and a diſtant *Sugar Loaf.*		43.	15
Middle Point of round Hill, being in one with the higheſt part of it, and making a Sandy Bay with the Peninſula - - - - - - -		40.	—
L. Ext. of round Hill in one with a Pagoda or Tower on a Hill in the Town - - - - -		35.	30
The Bottom of Haihong Bay - - - - -		26.	30
R. Ext. Gap Iſland - - - - - - - - - -		4.	—
The Middle being the higheſt part - -	N	9.	30 W

L.

1759. Oct. 10.	L. Ext. - - - - - - - - - - -	N 22°. — W
	A ſmall White rock cloſe to R. Ext. of Kilong-tchan River - - - - - - -	29. 5
	R. Ext. Kilong-tchan River Iſland. - - -	56. 45
	The Middle diſtinguiſhed by a ſmall *white cliff* above water - - - - - - -	61. 5
	L. Ext. - - - - - - - - - - -	67. —
	Kilong-tchan River W. points - - - - -	74. 40 86. —
	Hat Iſland - - - - - - - - - - -	87. 20
	A Point and high diſtant Peak in one -	S 79. — W
	The Ext. of the Main, Fokai Point - -	67. 30
	L. Ext. of Iſland, Singſoy - - - - - -	57. —
	Rock like Ladrone-Prow's ſail - - - -	51. 50
	Rock miſtaken for Pedro Blanco - - -	40. —

Having taken the Bearings and ſent the Compaſs down to the Boat, one of the Chineſe went along with us to the S°. Side and continued with me an hour, whilſt Captain Baker was waiting for the Sun.—

☉ 60°. 30′ + 16 − 3 = 60°. 43′ Z D 29°. 17′ Decl. 6°. 30′ Lat. 22°. 47′ N.

Lat. O. on the S°. point of Honghai Iſland 22°. 47′ N°.

Oct. 11. Having made the Obſervation our Chineſe Companion ſhewed us to a Pagoda and ſmall Village upon the *Weſt* end of the Iſland.

This Iſland at ſome diſtance appears very barren, but is not deſtitute of Verdure, and has upon it many very fat ſleek ſmall cattle, though by much the greateſt number are Bulls. The Village has gardens very regularly diſpoſed, and behind the *Pagoda* is a moſt agreeable walk or grove of ſmall Bamboes.

1750. Oct. 10. The Pagoda is very clean and neat within; The Image is a ſmall Figure of a reverend old man with a black beard, ſeated upon a rough piece of *Agala Wood* on a long bench, ſitting with one knee elevated, and on the other ſide of his Garment is the figure of a ſmall Hog. Above, upon the wall, there was a picture of a Female Figure; and before him was an altar with a black ſattin curtain hanging down from it in front, on which was repreſented *one* large and *four* ſmall birds, which I conceived to be intended for *Storks*: Upon the altar was an Incence [pot] and on one ſide a lamp burning.

We went in, and at our deſire a man, whom I imagined to be the Prieſt, gave us ſome water, which was very good. Leaving this place, we went immediately to the boat, intending to return aboard.

In the way we met our *Baſhee boat* ſent to inform us of ſome Mandarines being aboard. When we got to the Veſſel we found them to be ſome inferiour officers ſent to enquire whither we were going, as they did not underſtand our Language, we could only make them ſenſible by ſigns that we were going to Canton.

Some others came afterwards on board, and all of them were very inquiſitive and curious, obſerving every thing minutely: They deſired to ſee the Cabin, and being carried in, they expreſſed great ſurprize at the ſize of it. An old Fellow in particular was wonderfully pleaſed with ſome prints that were hanging in it: It was an agreeable entertainment to ſee the aſtoniſhment painted in his countenance, and to hear the exclamations he made to himſelf. Although all of them I have ſeen are curious, they ſeem univerſally to be moſt delighted with prints. I gave them a View of one of the Churches and Streets in London, which they ſeemed much

1759. Oct. 10. much pleaſed with, though not equally as with thoſe pieces which expreſſed the paſſions. I gave to our *Four* Friends who carried us to *Honghai*, *Four Sea-pieces*, with which they were extremely delighted, and their Civility well merited this acknowledgment, for they did not carry us for any pecuniary conſideration, nor did they aſk any thing on their return, but having expreſſed to Captain Baker, when I was gone out of the Cabin, a particular admiration of theſe prints as if they long'd for them. He told me when I returned, upon which I imimediately gave them, at which they ſeemed quite confounded and aſhamed. I cannot ſay ſo much for the Mandarin who came laſt aboard; he was on the contrary a moſt importunate beggar, aſking every thing he ſaw.

There can be no difficulty in finding the Bay coming from the from the *Weſtward*, as following the Coaſt will lead to it; Beſides the rocks mentioned in the bearings, there is another near the *Prow's-ſail* which was not then obſerved.

As you approach *Honghai* on this ſide, there is a very remarkable rock or Iſland named by the Chineſe Hat Iſland, it reſembles a *cone*, and cannot be miſtaken as there is nothing ſimilar to it upon the Coaſt.

The Jeſuits Map expreſſes the Coaſt very well, ſome inconſiderable Iſlands and Rocks are indeed omitted, but theſe were not objects in ſo general *Land Maps*.—If we may judge of the other Provinces by this Coaſt, we may venture to ſay, *there is not a place in the Chineſe Empire but may be found, with their aſſiſtance*.

The Latitudes indeed were found too far *Southerly* about 15′ but the Charts increaſe the error to almoſt twice as much.

1759. Oct. 11.	10th.	H	Weather	Winds	Tide	K	F	Depth of Water
	P M	5	Fair	S E	N W	—	4	3¾ }
		7				—	2	—
		8				—	2	4
		9			No Tide	—	—	—
		10			a Drain S°.	—	—	—
		12		NNE	S S E	—	4	4
	A M	1				—	3	4
		2				—	2	3¾
		3				—	2	— } at Anchor
		4			Slack Water	—	—	3½
		5	—	NE		—	—	—
		6			Flood made	—	—	—
		7. 12			Tide irregular	—	—	—
	11th.	1	Fair	S S E		—	—	—
		5		S b E		—	—	3¾
		10		S E		—	—	—
		12		E		—	—	— }
		2		E N E		—	—	At 2. A M Weighed
		3	Fair	N E	S b W	2	5	4½. 5. 5½. 6. 6½. 7. mud and fine ouze
		4			S S W	3	3	7. 8
		5	—		S W	3	5	9
		6		— —		4	1	10
		7				3	4	11
		8		E N E		3	—	12
		9			W S W	3	4	13.
		10				3	2	14. 15
		11		E b N		2	4	15
		12		E		3	—	16

At Sunrise—The Extremes in ſight - { N 80°. — ′ E / S 75. — W

A little Iſland in one with the laſt

Point of Haihong bay - - N 24. — E

Honghai Iſland - - - - 12. —

Hat Iſland - - - - - - N°.

Two ſmall Iſlands or Rocks the fartheſt Prow's-ſail, the neareſt 2 miles diſt. } N 35. — W

Pedro Blanco, viſible half way up Main Shrouds, - - } S b W

At

1759. Oct. 11. At 7 A M { Honghai - - - - N 17°. — E
Pedro Blanco, plainly visible from deck S°.
At 11 Pedro Blanco, just to be seen from deck S E ¾ E

At Noon Lat. O. 22°. 33′ N°. p. Chart 22°. 31′ N

☉ 60°. 23′ + 16′ − 5′ = 60°. 34′ Z D 29°. 26′ Decl. 6°. 53′ Lat. 22°. 33′ N

The Extremes in sight from the E. part of Fokai N 40°.—E
to Single Island - - S 85. —W
Singsoy - 5′ dist. N°.
Deep Bay - - - - - - - - - N 45°.—W
A pretty high piece of Land, near the W. part of the Bay, - - - - } N 55. —W
Pedro Blanco, not in sight, by Estimation E S E ½ S 10 Leag.

Having now got within the Limits of the *particular Chart of Part of the Coast of China*, in which all the soundings are inserted, it is unnecessary to continue this Journal any further:

Captain WALTER ALVES, in the Ship LONDON, from Lintin through the Islands on the COAST of CHINA.

12th February, 1765. Winds N°. to E. with thick hazey weather and rain.—At ½ past 6. A M weighed, and when had the *Great Mew* about 1 ½ mile distant, in one with *Lintin Peak* bearing S°. had 4 Fath. *hard*; but continuing to steer E S E about 1 ½ or 2 miles brought us into 5 and 6 Fath. *soft*; we then steered S S E, and had Soundings from 5 to 8 Fath. then 3 ½ *hard*, but hauling to the *Eastward* for about ½ a mile, we deepen'd to 7 Fath. and had *soft* Ground. We then steered S S E (and had 7 to 12 to 6 Fath.) till abreast of *Cow-wang* Point

Point (which is the N W point of the Iſland that forms the paſſage within *Lantao*) at which time

Lintin Peak bore - - - - W 2°. —N 5 miles
Great Mew - - - - - N W

diſtance from *Cow-wang Point* 3 Cables-Length.

The Wind favouring us kept under ſail, and ran againſt the flood till abreaſt of the E. End of *Lantao*, when, the Ebb making, we drove with the Tide through what is called *Cow-bee Paſſage*. And at 5 P M were abreaſt of the S W point of *Chinfalo*, when we haul'd to the E S E to go to the *Northward* of the Iſland Heong-Kong *(a)* and at 6 P M, the Tide being done, anchored in 6 Fath. *mud*, diſtant from *Heong-kong* about a mile, *Lantao Peak* bearing W 8°. S.

13th Feb. 1765. Light winds variable, with calm and hazey weather. At ½ paſt 6 A M Weighed with the wind at N E, and work'd with the ebb. At 9 A M, the Tide making againſt us, anchored in 6 Fath. about ½ a Cable's-Length from *Pockleon point*, bearing E N E, then

Lantao Peak and a ſmall Iſland *(b)* off the N W point of Heong-kong - - - - - - } W 9°.—S

The Tide ſetting W. about 2 K.

At 2 P M, The Tide of ebb making, weighed and work'd through amongſt the Iſlands, to the *Eaſtward*; At 7 P M anchored in 6 Fath. *ſoft* about a mile within the *Entrance* of this *paſſage* from the *Eaſtward*.

14th Feb. 1765. Winds, &c. much as yeſterday.

At day light weighed with the wind at N°. and ran out *Eaſt* through a *ſtrait* about *two* Cables Length in breadth,

(a) What he calls Heong-Kong is Fanchin-chow.

(b) This appears to be Typak-Howe.

very

very high rocks on both ſides, on the *ſouth* ſide is a *Caſtle*. Soundings after we weighed 6 to 7 to 3, 4, 5 *rocks* in the narroweſt place, to 7, 8, 12 mud about $\frac{1}{4}$ of a mile without the narroweſt part of the ſtrait.

On the whole, this laſt Strait is a paſſage I would not recommend, and indeed ſhould not have attempted, if there had not been a Pilot on board, for there is a very clear open paſſage out to ſea, about 2 miles to the *Weſtward* of this.

The Courſes ſteered in the LONDON from *Chinfalo* S W point clear out to Sea, to the Eaſtward of the *Lemas*.

From S W point of *Chinfalo* to *Pockleon* point E SE 4′ miles. Soundings from 12 to 4 $\frac{1}{2}$ to 8 and 6 Fath. ſoft.

From *Pockleon* point to the N E part of *Heong-kong* E b N 6 miles. Soundings from 6 to 11 Fath. ſoft.

From N E point of *Heong-kong* to the W. Entrance of *Fatongmoon paſſage* S E b E 4 miles. Soundings from 11 to 14. to 15. 19 to 6 Fath. ſoft.

From *thence* clear out to *Sea* Eaſt 3 miles, 6. 7 Soft, to 3. 4. 5. to 7 Rocky, to 12 and 13 Soft; then we ſteered out with the Land-wind.

I have in the Plate of Views added two drawn by different Perſons, viz.

View

View N 4. by Captain GEORGE BAKER.
Sunſet, 29th July 1759.

22 Fath. Coarſe Sand, with a mixture of ouze.

1	Aſſes Ears - - - - -	N 48°.— E
2	Peak of Gr. Ladron - - -	5. —
3	W: Ladron - - - -	
4	Montania, the top accidentally in clouds,	N 18. —W
5	Iſland between Montania and Kallong	
6	Kallong, on which is the *Mizen* - -	48. —
7	Viado - - - - - -	68. —

View N 5. by Mr. WAGHORN in the Ship Ponſbourne.

1	L. Ext. Kallong - - - -	W S W ½ W
2	The Mizen - - - - -	W ½ S
3	- - - - - -	N W
4	L. Ext. Montania - - - -	N N W ½ W
5	Cabareta Point - - - -	N b E ½ E
6	- - - - - -	N N E ¾ E
7	Lantao Peak - - - -	N E b E
8	Potoe - - - - -	N E b E ½ E
9	- - - - - -	E b N ½ N
10	- - - - - -	E ¾ N
11	- - - - - -	E ¼ N
12		E ½ S
13	Peak of Gr. Ladron - - -	E b S

FINIS.

Merid: of Gr: Ladron

30

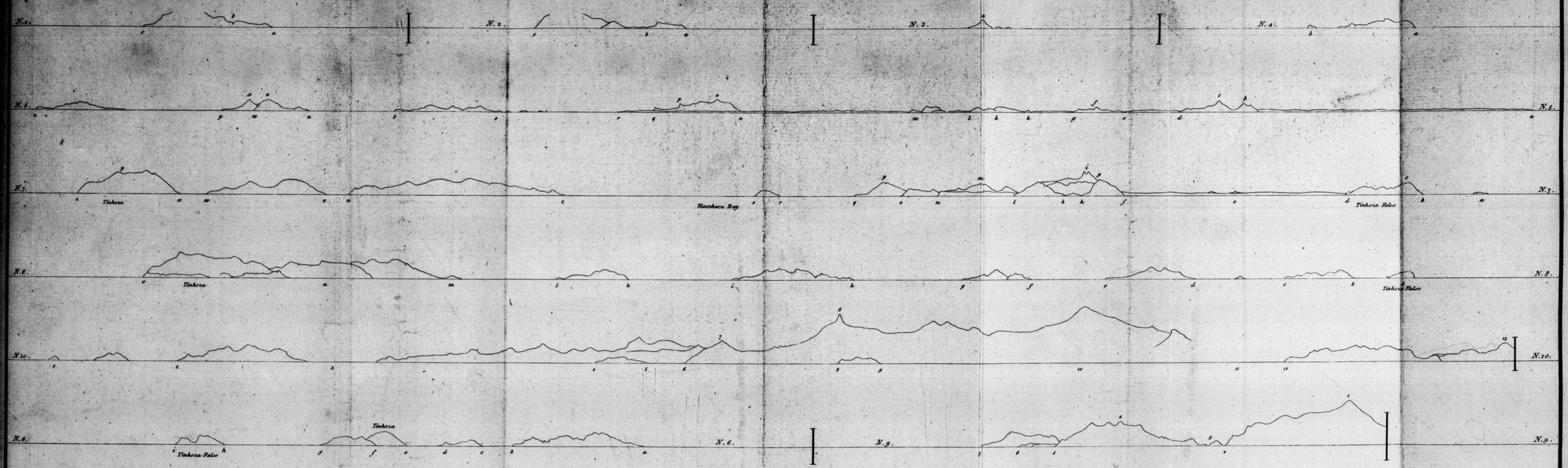
Obs: Pt

Stat. 1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

22

Coast of Hainan.



SCHOONER CUDDALORE

ON THE

COAST OF HAINAN.

JOURNAL

OF THE

SCHOONER CUDDALORE

ON THE

COAST OF HAINAN

1760.

BY

ALEXANDER DALRYMPLE, ESQ.

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PREFACE.

MY Journal on the Coaſt of Hainan is perhaps the moſt imperfect of any in my whole voyage; it was on my firſt ſetting out in the *command* of the Cuddalore; the Chief Mate, was not an *Artiſt* and had all *that prejudice* which conſtantly attends *ignorance*; He was beſides very careleſs in keeping the Log: Theſe obſervations I thought neceſſary to make by way of apology, that my Journal is not *more circumſtantial*, tho' I have never met with any deſcription of this Coaſt even ſo particular as it is.

In my brief account of the Country and Inhabitants I have confined myſelf almoſt *verbatim* to what I wrote at *that time*, although theſe were ſcarcely more than *notes*, to be exemplified at leiſure; but, having viſited ſuch a variety of places ſince, I was apprehenſive that if I had recourſe to *Memory* to ſupply the obvious deficiencies, I might have aſcribed to *Hainan* what had been obſerved elſewhere.

Where *ſcarce any thing* is known even the *little information* I here give, will be acceptable to the *curious*, and uſeful to the Navigator. If any perſon *can* and *will* give to the Publick, a more diſtinct and more accurate deſcription of the Iſland, I I ſhall as one of that Publick think myſelf much obliged to him.

MAY 1771.

P R E F A C E.

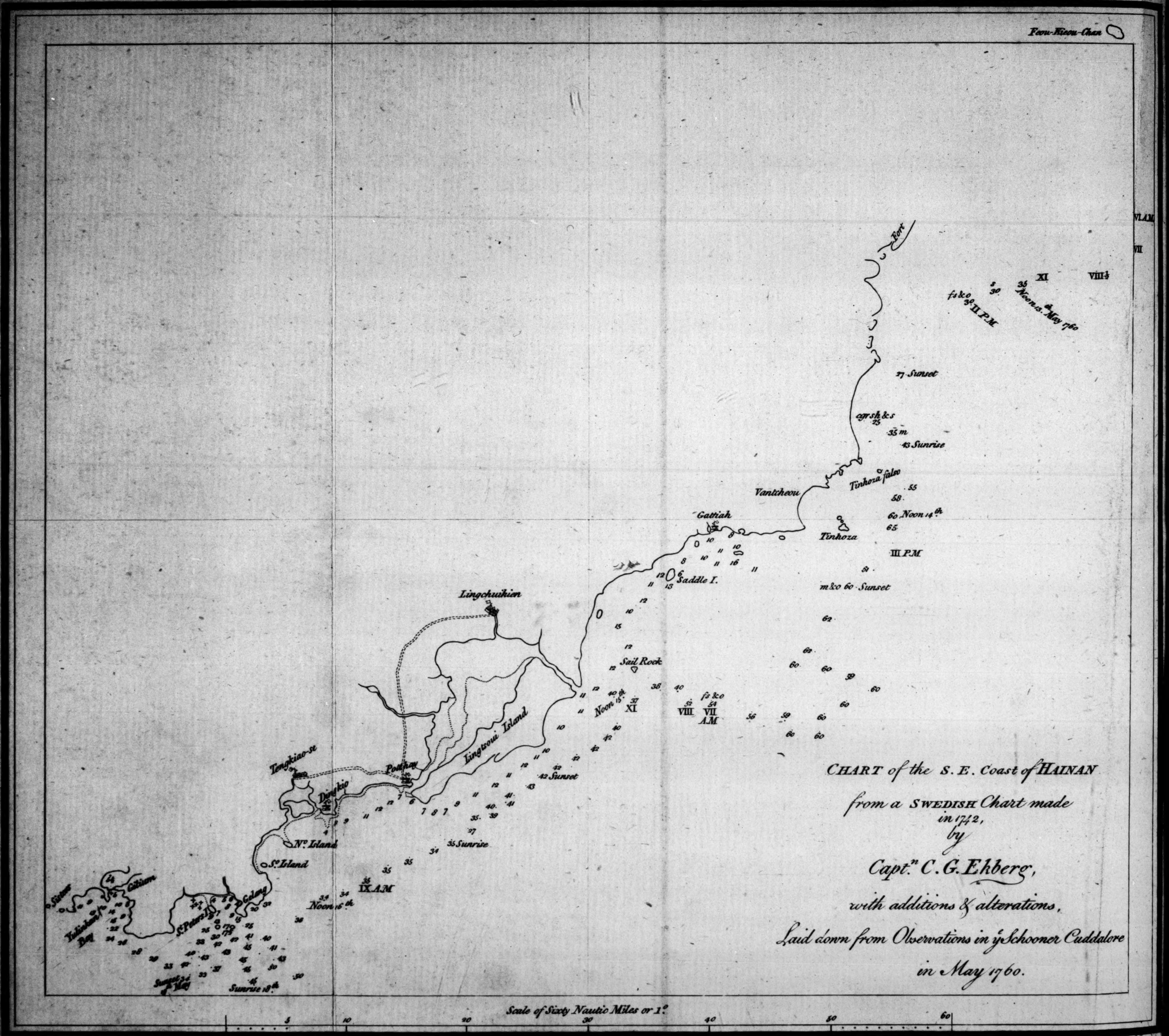

CHART of the S. E. Coast of HAINAN

from a SWEDISH Chart made
in 1742,
by
Captn. C. G. Ekberg,

with additions & alterations,

Laid down from Observations in ye Schooner Cuddalore

in May 1760.

JOURNAL

OF THE

SCHOONER CUDDALORE 1760,

ON THE

COAST OF HAINAN.

1760. May 13. IN the afternoon we passed many fishing Boats, and saw a multitude of Bamboes standing in the water, which we concluded to be the Buoys of fishing-Nets; at this time we had no Land in Sight; the Soundings were about 60 Fath. fine Sand, which depth continued till 11 PM, when we had 56 Fath. fine Sand, which gradually decreased to 50 Fath. fine Ouze and Sand at day-break.

1760.
May 13.

H	Weather	Winds	Courſe	K	F	Soundings
1, 3	Cloudy	E N E, E	S W b W	12	5	60 Fine Sand
4, 8	Hazey	E b N	———	18	2	62 D°
9, 10	———	———	———	5	4	60. 60
11, 12	———	———	———	4	—	56. 56
1	———	———	———	3	—	55
2	———	———	S W	3	—	54
3	———	———	———	2	5	50 Fine Ouze and Sand
4	———	———	———	2	3	— Saw Hainan
5	———	———	———	2	5	50
6	———	———	———	1	3	—
7	———	———	S W b W	2	3	—
8	———	———	———	2	3	—
8½	———	———	W S W	1	—	—
9, 12	Cloudy and Squally	E N E	———	6	2	35

At day-break ſaw High Land appearing like an Iſland, ſuppoſed *Feou Kieou-Chan*, bearing about - - N N W

At 6 AM Vide View N 1. - - a N 11°. — W
b 12. — } about
The top hazey alt. of viſible part 0. 36′ c 15. — } 7 L^s.

At 7 View N 2. - - - - - - - - - { a 3. — / b 4. — / c 8. — } 8 L^s.

At 8 Saw a High peak from fore-yard about W b S, with a ſmall hummock to the Right and much flat land ſtretching Northeaſtward.

At ½ paſt 8. The Land like an Iſland - - { N 3°. — E / 7. — }

View N 3. The Peak above-mentioned a W 5. — N
alt. — 0. 9′

At 11. Vide View N 4. - - - - - { a W 7. 30 S / b 11. — }

The Weather growing very thick, at firſt over the Land, but afterwards reaching us, not only interrupted the view of the Land but prevented our Obſervation of the Latitude at Noon.

H.

1760. May 14.

H	Weather	Winds	Courſe	K	F	Soundings
1	Cloudy and Sq. R.	N N W	W b S	2	2	30 Sand
2			W S W	2	3	30 Fine Sand and Ouze
3	Fair			2	—	—
4			S W b W	2	2	—
5, 7			S S W	6	3	—
8			S b W	2	—	25 Coarſe gravel and ſand with ſhells; anchor'd

In the afternoon about 2 o'Clock it cleared up, and preſented us a fair view of *Hainan* about 4 Leagues diſtant, which I have endeavoured to repreſent in the View (N 5.)

The Bearings then and at Sunſet were,

Vide View N 5.	2 P M.	Sunſet.
a	N 15°. —′ W	
b	51. —	N 3°. —′ W
c alt. 0°. 30′	52. —	4. —
d	54. —	6. —
f	61. —	10. —
g	62. —	
h	66. —	
k	68. —	15. —
l	69. —	
m	72. —	

Between m and n High Land up the Country.

n (the neareſt Land about 4 or 5 Leag. diſt.)	W 1. — S	
o	— —	56. —
p	— —	58. —
q	4. —	— —
r hereabout ſeems a River's Mouth.		
ſ	10. —	27. —
t	14. —	39. —
u	18. —	40. —
v alt. 0°. 30′	20. —	47. —
w	21. —	— —
x	21. 30.	49. —
y	23. —	— —
z	33. —	61. —

1760. May 14. At Sunſet, 27. Courſe Gravel with red Specks of Sand, and Shells, the View N 6. was taken.

(The neareſt Land bearing W. 4 or 5′ diſt.)

a		S 29°. —′ W
b		26. —
c		25. —
d		24. —
e	R. Ext. Tinhoza	23. —
f		22. —
g		20. —
h, i	Tinhoza falſo	16. —, 14. —

The Land to the Northward of the firſt Peak in the View (N 5.) is very *level*, but appears of a good height; ſo that, I conceive, it may be ſeen, in clear weather, 8 or 10 Leagues. The low Land expreſſed at other places, is, *ſtrictly*, low, the trees *only* being viſible: This Coaſt affords a delightful Proſpect from the diverſification of the Heights, though this is not fully repreſented in the View, as the High Land up the Country was now too hazey to be delineated. The point, z, bearing at 2 P M W 33°.—S was not then the *Extreme* in ſight, another Point ſtretching out a conſiderable way beyond it, but ſo hazey that its exact Bearings could not be taken.

On the S°. ſide of the Land of *Hainan*, *firſt* ſeen, we perceived a *White Fort* or *Town*, and *another*, to the *Left*, on the *low* Land; and in the evening ſaw a *Smoak* ſtill farther that way. In the *night* were many *Fires* on the ſhoar, but whether as *invitation* to us, or for other purpoſes we were unable to determine.

The Land, of this part in particular, is extremely delightful, being a variegated ſcene of Low Land with ſandy beach,

and

1760. May 14. and here and there a hillock, covered with Trees, which appeared to be large; in ſome places are Hills, and the whole proſpect is terminated by High Mountains.

The Extreme Point to the Southward in the view (N 5.) is of a good height and delightfully verdant; under it was the appearance of a *ſmall bay*, with ſeveral Boats at anchor; from which circumſtance it is probable there is a Town hereabout: The Coaſt beyond this Point, falling back, forms a *large Bay*, which muſt afford good ſhelter in the S. W. Winds; The ſhore around it is, generally, very low, it being a fine ſandy beach, and about the bottom of the bay, is the appearance of a *river's mouth*, with a ſmall Iſland at the entrance; I preſume it is *Lo-hoei-hien* of the Map.

To the ſouthward, beſides the Iſlands in the view, (N 6.) there is another ſmall Iſland or Rock to the Northward of them.

There is alſo a remarkable Peak, or *Noſe*, on a high range of land, up the Country; but as the high Land, on both ſides, had ſomewhat of a ſimilar appearance at the ſame time, and may be more ſimilar at other bearings, a view of it would be uſeleſs, perhaps a falacious guide.

We anchored, during the night, in this bay in 25 Fath. Coarſe Gravel and Shells having the Iſlands to the *Eaſtward* of S°.

As we were ſenſible, throughout the day, by our altering the Lands, that there was a Current ſetting to the *Southward*, we were aſſured of this in the night whilſt at Anchor; the current ſetting conſtantly above 1 K. and ſometimes 2 K. per hour; its direction variable from S W to S b E, viz.

1760:
May 14.

H.		K.	F.
8	S W	1	4
12	S S W	1	2
3	S b E	1	3

H	Weather	Winds	Courſe	K	F	Soundings
4, 5		N W b W	S b E			30 Hard
6				1		35 Mud
7		W S W	S	2		43
8				1	5	
9		W b S	S ¼ E		5	55
10		W	S ½ W	1		58
11, 12		W b N	S b W	2		60. 60

At 3 AM weighed with a faint air at N W b W.

At Sunriſe 43 Mud (Logbearings)

The Extremes in ſight from - - - - N b W ¼ W

to - - - - - S S W ¼ W

An Iſland 3 or 4′ diſt. - - - - - S W b S

In the forenoon, by the aſſiſtance of a ſtrong Current, we paſſed along ſhore, although it was almoſt *calm:* The Coaſt, in general, ſo far as we have ſailed along it, is *low to the ſhoar*, with ſeveral *riſing grounds*, which at a diſtance appear to be ſo many Iſlands, and probably gave riſe to the report "that a chain of Iſlands extend along the Coaſt," which is not true.

To the ſouthward of the large Bay, where we anchored, the Land is ſuch as before deſcribed with an Iſland off it, and to the *Eaſtward* of the Iſland a *ſmall low Iſland* or *Black rock*.

The Iſland, I conceive to be *Tinhoza falſo*, it is of a tollerable height, of ſmall extent, barren in appearance, and when ſeen from the *Southward* has a *Rock* like a *Pillar* at the R. End; a cir-

1760. May 14. a circumſtance mentioned by M. d'Aprés from the old deſcriptions. *Tinhoza falſo* bears about N°. and S°. with the N°. viſible Ext. which I imagine to be the Land *firſt ſeen* on *Hainan*.

To the ſouthward of *Tinhoza falſo*, there is, to appearance, a *very deep bay*; this *bay*, I conceive, is *Van-tcheou* of the Map, which ſeems to be, in general, exact; this bay muſt afford excellent *harbour* in the S W winds, and is repreſented to have ſeveral rivers falling into it. On the South ſide of this *bay* lies an *Iſland*, which, I imagine, is *Tinhoza*; this Iſland is of conſiderable extent, high and verdant a-top, with rocky cliffs to the Sea; I imagine it is about a League from the Point of the *next Land*, which appears alſo to be an Iſland: within this there is, to appearance, a ſtill larger Iſland, but I am inclined to believe it is part of the Main-Land of *Hainan*, the point of this laſt forms the S°. point of the *bay*, ſuppoſed to be *Vantcheou*.

At the bottom of the bay, is a *high Land*, with a remarkable *gap'd peak*, ſomewhat ſimilar to the top of *Lantao*, tho' more open: Tis viſible alſo from the former bay, but the *Gap* does not then appear.

In the forenoon the View (N 7.) was taken of the Lands from *Tinhoza* on the *ſouth*, to the *rock* Northward of *Tinhoza falſo*.

Vide View N 7.

a	Rock off Tinhoza falſo - - - -		W 41°.—′ N	
b	R. Ext.	Tinhoza falſo	39. —	
c	Higheſt part alt. 0°.39′			
d	L. Ext.		34. —	
e	- - - - - - - - - - - - - -		25. —	

f R.

1760. May 14.	f	R. Ext.		17°. —′	
	g	Higheſt part alt. 0°. 42′	- - -		4′ diſt.
	h	L. Ext.		13. —	
	i	Gap-Peak - - - - - - - - - -		13. —	
	k	R. Ext.		12. —	
	l	L. Ext.	- - - - - - - - - -	10. —	4′ diſt.
	m	- - - - - - - - - - - - - -		7. —	
	n	- - - - - - - - - - - - - -		6. —	
	o	- - - - - - - - - - - - - -		4. —	5′ diſt.
	p	- - - - - - - - - - - - - -		2. —	6′ diſt.
	q	N°. point Vantcheou Bay - - - - -		1. —	
	r	Appearing to be an Iſland in Vant-	W	0. 30′ S	
	ſ	cheou Bay - - - - - - -		2. —	6′ diſt.

To the Left of this, High Land, but hazey.

	t	Land like an Iſland, but ſuppoſed	W	15°. —S	
	u	to be part of Hainan - - -		25. —	12′ diſt.
	v	Iſland within Tinhoza - -		25. —	
	w			31. —	8′ diſt.
	x	R. Ext.		32. —	
	y	Higheſt part alt. 0°. 53. Tinhoza			8′ diſt.
	z	L. Ext.		37. —	

A M

L. Ext. Tinhoza and a diſtant Point - -	S	46°. —′ W
R. Ext. D° - - and R. Ext. other Iſland		52. —
L. Ext. D° - - and L. Ext. d° - - -		47. —

At Noon, an accident prevented me taking the bearings minutely; The Log bearings were,

Tinhoza, being viſible Extreme *ſouthward*,	W b S	3′ diſt.
Viſible Extreme - - - - - - - -	N°.	
Vantcheon Point - - - - - - - - -	W ¾ S	
Gap-Peak - - - - - - - - - -	N 60°. —′ W	

☉ 89°.

1760. May 14. ☌ 89°.45′+16′—4′=89°.57′. ZD 0°.3′. Decl. 18°.43′25″ Lat. O. { 18°.46′25″ / 18. 40. 25. } N°

The former Latitude ſuppoſing ⊙ to S°. the latter ſuppoſing ⊙ to N°.

The Lands, on the South ſide of *Vantcheou* bay, are high, and diſſimular to the Coaſt we have paſſed; but as the Currents drove us off, I had no opportunity to be minute in my obſervations of the Face of the Country.

May 15.

H	Weather	Winds	Courſe	K	F	Soundings
1		S E b E	S S W	1	2	65 Mud
2			S W b S	2	—	—
3		S E bS	S W	1	2	—
4, 6		Calm		—	—	61. 61. Mud and Ouze
7, 8			S W b W	4	—	62. 62
9		N	W S W	1	2	60
10			E	2	2	60
11				2	—	59
12				1	—	60
1, 3		N W b N	W b S	6	—	60. 60. 60
4	Lightg. all round		E	2	—	60
5		N N E	N W b W	2	3	56
6				2	4	54
7				2	5	52
8				2	—	50
9		N E		4	—	40
10		E N E	W N W	2	—	38
11	Squally and Cloudy	E	W	2	—	40
12	D° Rain		W b S	2	3	40

At 3 P M. The View (N 8.) was taken.

a Tinhoza falſo - - - - - - N 7°. —′ W 10′ diſt.

b } - - - - - - - - - - - { 16. — / 18. — } 10′
c }

d } - - - - - - - - - - - { 22. — / 25. — } 9′
e }

f } - - - - - - - - - - - { 29. —
g } { 32. —

h } - - - - - - - - - - - { 35. — / 40. — } 7′
i }

k } - - - - - - - - - - - { 46. —
l } { 49. —

Theſe are the Lands to the Northward of *Vantcheou*.

C m R.

1760. May 15.	m	R. Ext. of Land like Iſland	N 53°. —	W	6 or 7′ diſt.
	n	- - - - - - - - - -			4′ diſt.
	o	L. Ext. Tinhoza - - - -	64		3′

At Sunſet 60 Mud and Ouze. (Log Bearings)

The viſible Extremes from an Iſland - ′ N b E
to - - - W b S ¼ S
A High Mountain - - - - - W b N
Neareſt Land which is Tinhoza N b W 7 or 8′

It has been obſervable all along this Coaſt, that the Currents ſet very ſtrong to the Southward, by which means, tho' the Wind has been very ſcant, we have made conſiderable way. During the night, indeed, the Wind freſhen'd a little, and continued ſo long in the morning as to carry us in with the Land, which was laſt night the *viſible extreme*; this we now found to be the Iſland at the mouth of *Lingtſoui* River.

At Sunriſe (Log Bearings) 56 Mud.

The Extremes in ſight from - - - N E ½ E
to - - - W b S ½ S
about 5 or 6 Leag. off the neareſt ſhoar.

At 7. A M 54. fine ſand and ouze.

Sail Rock - - - - - - -	W 23°. —	N	7 or 8′ diſt.
Lingtſoui Iſland R. Ext. -	4. —		
L. Ext. -	1. —		
S°. viſible Extreme, ſuppoſed near St. Peters - - -	W 5. —	S	
Middle of three Peaks - -	N 30. —	W	
Vantcheou Point - - - -	E 62. —	N	

Iſland

1760. May 15.

Iſland within Tinhoza - -	E 56°. —	N
	55. —	
Tinhoza - - - - - - - -	54. 30	
	52. —	

At 8. A M 52 Fath.

Sail Rock - - - - - - -	W 28°. —	N about 5′ diſt.
Lingtſoui-Iſland R. Ext. - -	5. —	
L. Ext. - -	W 1. —	S
S°. viſible Extreme - - -	17. —	
Hummock Like Iſland at the mouth of Lingtſoui River -	W 7. —	N
Vantcheou Point - - - - -	E 58. —	N
Iſland within Tinhoza - -	52. 30	
	52. —	
Tinhoza - - - - - - -	50. —	
	48. —	

About 11. A M. 37 Fath.

Sail Rock - - - - - - - - - -	North 2′ diſt.
Saddle Iſland - - - - - - - - -	N 17°. — E
Vantcheou point - - - - - - -	45. —
Iſland within Tinhoza - - - - -	48. 30
Tinhoza - - - - - - - - - -	52. —
	50. —

The *Rock* off *Lingtſoui*, which in the *Swediſh* Chart is ſaid to reſemble a *ſail* has never appeared to us in that View; tho' I am far from inſinuating, that it has not at *ſome bearings*, ſuch a ſimilitude. When it bears W N W it has much the reſemblance to M. d'Aprés' View of *Pedro Blanco* in the *Strait* of *Sincapore*, tho' rather *black* than *white*. The appearance of this *Iſland* or *Rock* gave us room to conjecture that the *Tides riſe and fall very much here*.

1760. May 15. The Iſland, which, from its figure, I have named *Saddle Iſland*, appears verdant and fruitful, and to have plenty of wood; *This* with the *rock* like a *ſail*, bear N 21°. E and S 21°. W, theſe, I conceive, are the Iſlands at the mouth of *Lingtſoui River* in the Jeſuits Map. To the *N Weſtward* of the *rock*, there was an appearance of a *River's Mouth*, which is probably that of the *Map*, and is the chief entrance of *Lingtſoui*; the N° *Entrance* of the *Swediſh* Chart which makes *Lingtſoui* Iſland on the *North* was alſo perceived, it has to the *Northward*, on the oppoſite Shoar, a ſmall *rocky hummock*, which looks like an Iſland till you approach near.

After paſſing *Tinhoza*, *Lingtſoui* may be eaſily diſtinguiſhed by the *rock*, which has nothing ſimilar to it, on the Coaſt. Almoſt due N°. of the *rock*, and Weſtward of *Saddle Iſland* there is a *high range of Land*, upon which are *three Peaks*; the *middle Peak*, which is moſt pointed, being ſomewhat higher than the others; This range of Mountains comes almoſt cloſe to the ſea-ſide; this is neceſſary to be obſerved as there is another range, ſomewhat of the ſame appearance, further inland to the Weſtward.

Nothing can be more delightful than the Country upon this Coaſt; the number of pleaſant Mounts on the low land would afford a picture for romance, but the proſpect is greatly heightened by the apparent fertility of the Mountains, which (particularly that before-mentioned with *three peaks*) are covered with *wood*, interſperſed with ſeveral verdant ſpots of clear Land. Some parts are not of equal apparent fertility, the *ſmall hummock* at the N°. ſide of the Entrance to *Lingtſoui* River is a very barren *rock*, and the greater part of *Lingtſoui Iſland* is not much better, though there ſeems to be ſome wood on it. Coming from the Northward this Iſland appears as the

termination

1760. May 15. termination of the Land, and though, approaching towards it, the Land from *St. Peters Bay* becomes viſible, as this is very diſtant, there is no danger of confounding them. The Northern part of *Lingtſoui Iſland* is low and ſandy; the ſand, terminating at the hills, forms a *Spot*, which, with the aſſiſtance of a fertile imagination, may be found to reſemble a *Mizen* and is viſible at a conſiderable diſtance. The ſandy beach, common to the greateſt part of this Coaſt, greatly heightens the agreableneſs of the proſpect; whether it be merely from the variety it affords, or in ſome meaſure by conveying an Idea of good anchorage I ſhall not determine; but I cannot help obſerving that the appearance is in this reſpect fallacious, ſince it is the boldeſt Shoar I have ever ſeen, which had Soundings at any conſiderable diſtance in the offing: for, although we never loſt ſoundings from leaving the *Coaſt* of *China*, and ſcarce ever had ſo much as 60 Fath. till in ſight of *Hainan*, yet, within about 2 or 3 miles from *Tinhoza* we had 60 Fath. and about the ſame diſtance to the Southward of the *ſail Rock* 37 Fath. To the *Northward*, it was alſo obſervable, that, although in *deep water* we had generally *ouze*, yet when we ſhoalend the bottom was conſtantly *gravel*, commonly, with a *mixture* of *Shells*; but this day in all depths, it has been very *fine greeniſh ouze*, remarkably *ſtiff*, ſo that the Lead brings up a great deal of it; nothing could be deſired better for anchorage, if the water was not ſo deep. I cannot poſitively ſay how far the Soundings reach Eaſtward, from this part of the Coaſt, but to the Northward, in ſome places there is much leſs at a conſiderable diſtance, than within a few miles of the ſhoar.

As a Land-Squall came off a little before *noon*, we were ſo unlucky as to loſe our *obſervation*; in which reſpect we have been very unfortunate on this Coaſt, a ſimilar accident happening

1760. May 15. pening the first day, and *yesterday's* observation was of little authority the Sun being in the Zenith.

The frequent haziness of the weather, as well as our situation with respect to the trenching of the Coast, has prevented my taking many useful bearings; the Map appears to me sufficiently exact for a general Draught.

At Noon being 2 or 3 miles off shoar the Log Bearings were,

Tinhoza Island - - -	N E ¾ E
White rocks (sail rock) -	N E b N
Pt. Lingtsoui Island - -	W b N ½ N

May 16. P M

Saddle Island and Sail Rock - - - - N 21°. —′ E

H	Weather	Winds	Course	K	F	Soundings.
1	Cloudy and Rain	W	S b E	2	1	40 Mud
2		Calm				42
3, 6	Fair					42. 42. 42. 42
7						43
8, 10			Driving to S W			41. 41. 41
11, 1	Lights. all round					40. 40
2						39
3						35
4						30
5		N	W b S			27
6				1	5	35
7		N E b E	W S W	2		34
8						35
9				1	2	35
10				1	3	35
11				1	3	34
12				1		35

Soft black mud

At Sunset 42 Fath. Mud (Log bearings)

The visible Extremes, from Tinhoza - - N E ½ E
to an Island in St. Peters Bay W b S Sy. about 2 Leag.

At

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At Sunrise (Log Bearings)

The visible Extremes from	- - - -	N E
to an Island	- -	W S W
Sail Rock	- -	N E Easterly
Lingtsoui bay	-	N ¼ E 4 or 5 miles

The two Islands in the mouth of the bay, called in the Swedish Chart *St. Peters*, I named for distinction *E and W Brother*, and the Island in the cod of the Bay *St. Peters* Island.

At 9 A M.

E. Brother - - - - - - - - - - -	W	22°. 30′	S
		21. 30	
L. Ext. W. Brother - - - - - - - - -		21. —	
Middle of D° and St. Peter's South point (called Gelang) - - - - - - - - -		20. 30	
N°. point of Main to southward of 1st Island	W	1°. —′	N
The 1st. or S°. Island - - - - - - - - -		4. —	
		6. —	
The 2d. or N°. Island being that nearest Tengkiao		20. —	
		23. —	
Tengkiao - - - - - - - - - - - -		58. —	
Lingtsoui Island - - - - - - - - -	N	28. —	E
		52. 30	

A M.

Gelang Point and R. Ext. W. Brother	W	17°. —′	S
L. Ext. W. Brother and R. Ext. E. Brother	W	18. 30	S

Ω 88°.

1760. May 16. ☌ 88°. 48′ + 16′ − 3′ = 80°. 1′ Z D 0°. 59′ Decl. 19°. 11′ 32″ Lat. 18°. 12′ 32″.

At Noon 34. Ouze. Lat. ☉ 18°. 13′ N. Mr. Rice, 18°. 15′ N.

E. Brother	W 17°. —′	S
	15. —	
W. Brother	15. —	
	13. 30	
Another appearing like an Iſland,		
Probably the Extreme of Hainan from	13. 30	
to	13. —	
Part of it in one with		
Gelang Point	13. —	
The next Point or St. Peter's E. Point	7. —	
Point of Hainan near S°. Iſland	W 25. —	N
S°. Iſland	28. —	
	32. 30	
N°. Iſland	54. —	
	61. —	
Tengkiao — 5 or 6′ diſt.	N 1. —	E
Lingtſoui Iſland	39. —	
	54. —	
A Gap or Breach making it appear like two	49. —	
P. M.		
N°. St. Peter's Point (W 25°. N at Noon)	N 44°. —	W
and S°. Iſland	23. —	
Point W. Brother and high Peak ſeen over the W. ſide of the bay	W 8. —	S
R. Ext. E. Brother and D°	6. 30	
L. Ext. D°. and S°. Pt. Hainan	10. —	
Gelang Pt. and bare rocky Gap Peak *	W 0. 30	N

* This *Peak* is one of the marks for entering *Gilium Harbour*, on that ſide one of the peaks is bare rock, the *other Peak* above mentioned is that within the *Dolphin's Noſe*.

1760. May 17. L. Ext. E. Brother and Ragged Point which is W. Point of St. Peter's bay - - - } W 7°. —′ S
R. Ext. E. Brother and R. Ext. W: Brother 1. —

At 3. P M I went aboard the Longboat and left orders for the Cuddalore to follow, but night coming on, the officer aboard was apprehenſive and ſtood off; He came to an anchor in 41 Fath. at half an hour after 7 P M.

The wind being light and the Tide againſt us, my intention was to examine the paſſage between *Gelang* Point and the *E. Brother*, I was unable to reach that part of the ſhore before dark, and therefore came to an anchor in 25 Fath. ouze;

The L. point of the Sandy Bay made
by two points of Gelang - - N b E a ſcant mile diſt.
So. Point of Hainan and L. Ext. E.
Brother in one - - - a large mile diſt.

Gelang L. Point, before mentioned, is a *Bluff White Cliff* with 25 Fath. at leſs than a Cable's length diſtance, and 13 within 100 feet of the ſhore.

In the morning I weighed with the Longboat, and paſſed between the *main* of *Hainan* and the *E. Brother*; in this channel a China Boat came aboard, and, in it, a man who, at leaſt, pretended to be well acquainted with the pilotage: by him I was aſſured that there were no *rocks under water* in the channel, or any where in the bay; He told me alſo that the bottom was bad in *this*, but in the *other* channels that the ground was *ſoft* as well as in the bay itſelf. According to his information, that part of the Bay to the *Weſtward* of the *inner*, or *St. Peter's, Iſland*, has deep water generally 20 Fath. but to the *Eaſtward* of that Iſland leſs water.

1760. May 17. I found in the *Eaſtern* Channel generally 15 Fath. bright, tho' coarſe, gravel; and perceived *two rocks above water* here, as well as *ſeveral* in the Bay. This Channel and that between the *Brothers* appears to be of the ſame width, that is, about a *mile*.

I conceive the *E. Brother* is rather *round* than *long*, about one mile in extent, and off the E and N E parts, tho' cloſe to it, lye the *two Rocks*.

The *W. Brother* has much the ſame appearance, though ſcarcely of ſo great extent. I paſſed the Channel between them, and had 17 and 17 ½ Fath. ouze. On the W. Side of the *W. Brother*, there is rather more water, with the ſame bottom.

It appears as well from the obſervations I could make, as from the report of the Chineſe, that there is no danger in going into *St. Peters Bay*. The paſſage to the *Weſtward* of the *Brothers*, I think is the moſt eligible for a large ſhip, tho' either of the others may be paſſed without danger.

The beſt guide, I think, for entering the Harbour, is a *Hill* which appears variegated with *Spots* of *clear-Land*; To the *right* of it, the Land, tho' high, is *level* to the viſible extreme, and to the *left*, it is alſo diſtinguiſhed by a *hollow*, ſo that it appears like a *Single Hill:* This being at the bottom or N E Corner of the Harbour, near the River is a very good guide, after paſſing the Iſlands, if the Winds or ſize of the Ship, make this part of the Bay eligible; but if it be thought expedient to lye between *St. Peter's Iſland* and the *Main*, that *Iſland* will be the beſt direction; from the *W. Brother* to to *St. Peter's Iſland*, which lyes ſomewhat to the *Weſtward* of N°, though the Soundings are gradual from 13 Fath. to 9 within a Cables's-Length, or leſs, of the laſt Iſland, to which

as

1760. May. 17. as you approach, the bottom changes from *Ouze* to *gravel with Shells*, and again to *Ouze* and *Sand* (with which it is every where here mixed in ſome degree) as you go *Eaſtward* along ſhore, where the water gradually decreaſes to 2 Fath. within a *quarter* Cable's-length of the beach.

In this part of the Bay, with a Southerly Wind there is ſo much ſurf rhas a Common Boat could not land with any ſafety, though I went aſhore eaſily enough in the boat which we brought with us from the *Baſhee Iſlands*. The Beach is very ſteep, and, from the appearance, I conjecture the Tide riſes conſiderably above a Fathom: The Sand of the beach is extremely fine and ſo very hard that I could ſcarce make any Impreſſion with the but-end of my Fowling-piece.

I went after landing in queſt of the *river* laid down in the *Swediſh* Chart, and ſoon found the channel of a conſiderable ſtream *now dry*, near to it was *a path*, which we followed, obſerving the late prints of ſome people's footſteps, but it neither led us to a *river*, nor to *any habitation*, though we went a great way in. We returned and ſoon after perceived a plain, which we entered and ſaw, at the end of it, *three Coconut Trees*, and near them found ſome *huts* without people, or any appearance of their having lately been there; from hence we returned towards the boat, deſpairing of being able to find any water, when, leaving the path we had come, we accidentally met with a ſtream, though a little taſting of the *Leaves*, of which it was full; tracing it upwards we got near to the huts we had left, and as the water here had a freſher current amongſt ſtones, and fewer leaves in it, we found it very good. In going back to the ſea we ſaw the print of a Deer, and at the beach found the *mouth* of the *Stream*, which, however, now only terminated in a *Pool*; it is to the *left* of ſome rocks, which

1760. May 17. are obvious from the middle of the Bay, and terminate the ſandy beach on the *Right*.

In rambling through the woods I ſaw ſome *Lumbay* Trees, ſome *Figos de Matta* and a very beautiful *red bird*, which I ſhot; we alſo ſaw the print of a Deer, and the dung of Cattle, but met none.

The Country here is very wild and woody, but appears very good Land, if properly cultivated: many parts on the ſides of the hills are cleared by fire, I ſuppoſe for the cultivation of Yams, though there are many places ſo burnt without any appearance of tillage. In the woods I caught one of thoſe beautiful flies ſeen at *Dalupiri*; Birds of various ſorts are here very plenty, particularly *martins*.

I had not an opportunity to meaſure a Baſe and take bearings, though the *beach* lying in a *direct line*, at *leaſt a mile*, was a great temptation, but the veſſel not coming in prevented me.

I conceive the *tides*, as well within as without the Bay, ſet about N W and S E.

I cannot ſay much in favour of this place; it is quite expoſed to the *Southerly* Winds, except within St. Peters Iſland where ſmall Veſſels may lye ſecure.

H.

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H	Weather	Winds	Course	K	F	Soundings
1	Fair	N E b E	S W b W	2	—	36 Mud
2, 3				4	—	— At Sunset the Extremes N E ½ E / W
4		S W	S E	1	2	40
5			S E ½ E	1	2	41 A passage open into St. Peter's bay N W ½ N
6		S S W	W	2	—	41 Another d° - - - - - - - W N W
7		Calm		—	—	41 Another d° - - - - - - - W b N ½ N
8, 11		Calm		—	—	— about 2′ dist. from the Brothers
12		S W	Weighed	—	—	— At ½ past 7. Anchored.
1			S S E	2	—	43
2				2	—	50
3			W N W	2	—	50
4, 6		S W b S	W b N	5	5	45. 45. 45. At Sunrise, the Bearings nearly as at Sunset
7				2	2	43 At Noon the Extremes N E ½ E / W N W
8, 9		Calm		—	—	43
10			W S W	1	3	42 Middle of St. Peter's bay and Western Passage N
11, 12		Calm		—	—	42 Distant from the Westermost and outer point about 2 or 3 Miles

May 18. In the afternoon I stood out and reached the Vessel about half an hour after 9, when I directed the Officer aboard to follow me, intending to proceed to *Gilium*, as it is called in the Swedish Chart; We anchored in the Night off the *W. Brother*, but the Vessel having lost sight of us stood off at ½ past 11 P M.

At 10 A M. In the Longboat 37 Fath. Ouze.

E. Ext. of Gilium Outer Bay, or S°. Point of Hainan, and Ext. of Peninsula Point or W. Ext. of Gilium Bay - - - - } W 20°. —′ N

St. Peter's Island - - - - - - - - - - N°.

W. Brother 3′ or 4′ dist. - - - - - N 8. — E

E. Brother - - - - - - - - - - - 28. —

Gelang E. Point. - - - - - - - - - 36. —

At Noon in Longboat. Lat. O 18°. —′ N.

☉ 88°. 8′. + 16′ — 3′ = 88°. 21′ Z D. 1°. 39′ Decl. 19°. 39′ Lat. 18°. —′ N

W. Brother - - 3 or 4′ dist. - - - N N E

St. Peter's Island - 5 or 6′ dist. - - - N b E

Cuddalore's

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Cuddalore's Log.

H	Weather	Winds	Course	K	F	Soundings
1, 2	———	S W b S	E N E	4	2	40. 40
3	———	———	———	2	3	42
4	———	———	E	2	5	42
5	———	S	E S E	1	3	—
6	———	———	W S W	1	4	42
7	———	———	———	2	3	42
8	Sq. to Nd	———	———	1	5	—
9, 10	Moderate	E N E	S E	3	7	—
11	———	———	N N W	1	4	—
12	———	N E b E	S E b E	1	2	45
1, 8	———	Calm	Driving to Sd.	—	—	45
9, 11	———	faint air W	N b E	3	7	43. 43. 43.
12	———	Calm	———	—	—	40

The Extremes { N E b E / W
Island of St. Peter's bay N W ½ N
Another Island - - N W b W
2 or 3′ dist.
At Sunrise 45 fa. the Ex. { N E / W N W
The neareſt Shore N 5 or 6′ dist.
The Ex. { N E ½ E / W N W
At noon { Diſt. off ſhore 2 or 3′

May 19.

H	Weather	Winds	Course	K	F	Soundings
1	———	Faint Air S W b W	N E	1	2	40 Mud
2	———	S W	S S E	1	—	40
3	———	———	S W b W	—	5	36
4	———	———	———	—	4	—
5, 6	———	S E b S	S W	4	—	35. 34
7	———	———	E N E	2	—	33
8	———	———	———	2	—	30
9	———	———	Various	2	—	—
10	———	———	———	2	—	29
11	———	———	———	2	—	29. 28. 26. 24. 22. Anchored
12	Squally	———	———	—	—	— Current E N E 1 K.
3	———	E S E	———	—	—	—
5½	———	———	———	—	—	— Weighed
6	———	E	———	—	—	15 Mud. Hoiſted out Pinnace
7	———	Calm	———	—	—	— Anchored in 12
9	———	E S E	———	—	—	— Weighed 12. 10
10	———	———	———	—	—	10. 9. 6. 5 ¼. Anchored

It was about 2 P M before I got aboard the Cuddalore, when we ſtood along ſhore to the Weſtward

P M.

S°. Ext of Hainan and R. Ext. Peninſula - W 30°. —′ N

At

1760. May 19. At Sunſet in 34 Fath. the View (N 9.) was taken, it will diſtinguiſh the Entrance of *Gilium*.

1. The Diſtant Peak, (formerly ſet in one with *The Brothers*) the Coaſt 5 or 6′ diſt. - - W 38°.—′N
2. S°. Point of Hainan - - - - - - - 33. —

To the Left of this is Gilium Bay

3. Peninſula - - - - - - - - - - - 32. —
4. - - - - - - - - - - - - - - 28. —
5. W. Ext. Gilium Outer Bay - - - - - 25. —
6. L. Ext. of *Two Siſters* obſcure - - -
7. - - - - - - - - - - - - - - 22. 30

(Log Bearings)

Neareſt ſhore - - - - - N W b N 1 ½ mile diſt.
Ext. to Eaſtward - - - - N E b E ½ E

Having before dark opened the paſſage into *Gilium Outer Bay*, we ſtood in, and anchored there in the night, towards the Eaſtern part of the Bay in 22 Fath. ſoft mud.

At ½ paſt 5 A M Weighed with a faint air at E.

In the morning I went, in the Pinnace, to look for *Gilium Harbour*, being uncertain where it was, though I imagined it to be near ſome *Rocks*, now viſible, and round a *low ſandy Point* whether I proceeded and found that I had conjectured right. Having made ſuch obſervations on the channel as I thought neceſſary for the preſent purpoſe, I went aboard the Longboat to give directions to have a hauzer and ſmall anchor ready to warp the Cuddalore in, if occaſion required; but a briſk Sea-Breeze ſpringing up at E S E, we weighed, at 9 A M, and ſtood in towards the Harbour's Mouth, through which I piloted the Veſſel in a channel never leſs than 6 Fath. deep, and at 10 A M came to anchor in above 5 *white mud* within this harbour being quite land-locked.

A M.

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A M.

2d. Point on W. Side Gilium Bay and Diſt.
Point - - - - - - - - - - - - W 10°. — N
2d. and 3d. Points - - - - - - - - - 7. —
1ſt. Pt Peninſula Point, (or W. Ext. of Gilium Outer Bay) and 3d. Point - - - - W 17. — S

May 20. In the afternoon I went towards the Shore and ſaw ſeveral *red-cap'd Chineſe* on the beach, who made ſigns to us, on which I went aſhore and found they were ſent to enquire who we were; they deſired to go aboard; I acquainted them by an Interpreter that we came for water, and that they were welcome to come aboard: One of them then went with us to ſhew us the water, which was a *well* half a mile from the ſhore; We then returned and carried them aboard; here they made enquiry of our force and cargo. I told them we had no merchandize and gave them ſuch account of our Force as I thought would ſatisfy them.

In the morning I was conducted by a *Chineſe* to a *Well* about two miles to the N E from the Harbour's Mouth, but I found at high water it was *ſalt*, beſides the Water to the Shore is ſo ſhallow that we could not come near with the pinnace, and being ſharp *needle rocks* it is ſcarce paſſable on foot. In this part of the Bay is a Village where we ſaw ſome Cattle which were ſmall, but ſleak and plump. We brought ſome Firewood aboard not having got any water.

May 21. Took the bearings from our Anchor in $5\frac{1}{2}$ Fathom, viz.

Higheſt peak within the Harbour - - - E 79°. — N
Two Points, making river, - - - - - - { 35. 30 / 25. — }

The laſt being 2d. Point within Rocky Point.

1ſt. Point

1760. May 20.

1ſt. Point *within* Rocky Point - - - - -	S 88°. —′ E
1ſt. Point *without* d° - - - - - - -	44. 30
2d. D° - d° - d° (or Foul Pt.) - -	43. —
Rocky Point - - - - - - - - - - -	42. —
3d. Point *without* d° - - - - - - -	36. —
10 Fath. Point - - 3′ diſt. - - -	33. —
Sandy Point - - ¼ mile diſt. - - -	31. —
Single Peak - - - - - - - - - - -	29. —

Sandy Point and Outer Point S 18. —′ E

Cloſe to *Sandy* Point, 8 Fathom.

Rocky Point and *next* Point *without* - -	S 67°. —′ E
2d. Point *without* Rocky point - - - - -	57. —
3d. D°. - d° - d° - - - - - -	45. —
10 Fath. Point - - - - - - - - - -	33. —
Single Peak - - - - - - - - - - -	30. —
Dolphin's Noſe, or Outer Point - - -	19. —
Ext. of Shoal ſouthward of Sandy Point -	21. —
Point *without* Sandy Point - - - - -	S 5. — W

The Coaſt within *ſandy Point* lyes about N b W, forming two ſandy Bites.

Viſible Extreme of the Shoal within Rocky Pt.	N 10°. —′ E
Dry Sand on d° - - - - - - - - - -	41. —
Point making River on N° ſide - - -	46. —

The other not viſible

1ſt. Point *within* Rocky Point - - - - -	48. —
Bare Rocky Gap Peak and Foul Point	E 24. — S.
When to 10 Fath. bore - - -	54. —

1760. May 20. I have here inſerted together all my bearings for this bay and harbour, of which I ſhall not attempt to make a Draught: I however ſhall venture to give a few Inſtructions for entering the *harbour*; as I was apprehenſive of raiſing a jealouſy in the *Chineſe* that we had ſiniſter intentions in coming hither, which might have been of bad conſequence to our affairs at Canton, I determined to forego any ſatisfaction, or advantage, that might attend ſuch a ſurvey of it, as could be effected in the few days we were kept in watering, and therefore did nothing more than take the bearings from where we lay, and from another Station cloſe to *ſandy* Point, with a few bearings of the Points in one.

The entrance, which is not above $\frac{1}{4}$ mile from Point to Point, is ſtill more contracted by the Shoals on each ſide; if the wind be *Eaſterly* there is neither much danger nor difficulty in going in; as the *Eaſtern* ſide of the *entrance* has deep water *cloſe* to the *ſhoar* till paſt the *point* of the *ſhoal* which ſtretches off from the *other* ſide, a veſſel paſſing along the *Eaſtern* Coaſt, as cloſe to the ſhore as the ſoundings will admit, till *abreaſt* of the *Rocky* Point, may *then*, or even ſooner, bear away directly for the *ſandy Point* cloſe to which is 4 Fath. at low water.

Theſe inſtructions are alſo to be followed if there be a leading wind; But in caſe of a *Weſterly* Wind, when *this* is a *lee-ſhore*, and therefore not to be approached without ſome danger, greater care is requiſite that, in keeping in with the *Weather-ſhore*, the Veſſel does not get to the *Southward* of the Shoal, which is not ſo *obvious* here, eſpecially at high water, as that on the oppoſite ſide.

If 10 *Fath. Point* be brought to bear S E b S when *Foul Point* and the *bare rocky Peak* is *juſt open*, you may be aſſured of

1760. May 20. of being to the *Eaſtward* of the Shoal on the *Weſtern* ſide of the Entrance; and the oppoſite Courſe, viz. N W b N, made good, will carry you clear of every thing, in a channel with ſufficient water for a *firſt-rate*.

This direction therefore will be a guide to ſuch as enter with a *Weſterly* Wind, for, having brought *Fath. Point* to bear S E b S let them continue it ſo, till they ſhut in *Bare rocky Gap Peak* with *Foul point*, when they may ſtand in N W b N, which will carry them cloſe to *Sandy point*, of which they need not be afraid to go within their Veſſel's-length, as it is ſteep to. Though I would not adviſe any one to make a more *Weſterly* Courſe.

I would recommend a large ſhip to paſs this channel at *low water*, when the danger will be more conſpicuous though not encreaſed.

I would alſo adviſe *any* Veſſel, when *Sandy point* is ſhut in with the Land on the *Eaſt ſide* of *Outer Bay*, to come to anchor not above *half* a mile, *at moſt*, from ſhore near *Sandy point*, and thence to diſpatch their boats to *ſound*, before they moor.

The Wind N E to S°. with ſhowers of rain.

May 21. The Weather and winds the ſame, with ſome ſhowers of rain, thunder and lightening.

This day I went into the Country to the *N Weſtward* till I came to a *ſalt* River which diſembogued into a *large bay* or *harbour* the extent whereof I could not diſcover from this ſide.

On the oppoſite ſide of the *River* were many *Coco-nut Trees*, and in the way many paſſengers, which makes it probable there was a *Town*; but as the *river* was *not fordable*, I did not think it prudent to venture over in the *Paſſage Boat*, kept here, as I conceive, for the conveniency of the Labourers, as moſt of the Paſſengers we ſaw, appeared to be ſuch, from the implements they bore of Huſbandry.

1760. May 21. I ſat down, by invitation, in a *ſalt-Houſe* near the *river*, but obſerved nothing remarkable in it, except ſome very large *Calabaſhes* and *Lines* of a *ſtuff much reſembling hemp*, common in the Philippin Iſlands where it is called *Balibagoo*.

Whilſt I was here a *Chineſe* ſoldier halted, by which I had an opportunity to obſerve their arms; they have no knowledge of any other but *Match-Locks*, their pieces are very heavy, though of a very ſmall bore, and their powder not well grain'd and very unequal; He had a flat horn to keep it in, ſimilar to the European.

The ſight of this *river* made me determine to proceed up *that* at the head of the *harbour* wherein we lay, in hopes of finding that there was a communication, and accordingly,

May 22. At 7 o'Clock in the morning I ſet out in the pinnace, and having paſſed up the *river* in the Swediſh Chart, entered that *channe'*, or branch, which runs to the *left*, but ſoon found it was *dead water*, without any conſiderable extent, we then paſſed into the *other river*, which was now, at *low water*, 5 or 6 feet deep, the depth as far as we went was never leſs, and frequently conſiderably more.

After going up a long way, we found another *Creek* on the *left*, which we entered; but were, after ſome time, obliged to return finding it alſo *dead-water* and no farther paſſage. We then continued our courſe up the main branch ſeldom ſeeing any *people* or *houſes*; the water was ſtill *ſalt* and the ſhores overgrown with *mangroves:* At laſt we reached the *freſh water*, which I do not imagine was nearer the Veſſel than 6 or 7 miles in a *direct line*, and much farther by the *river*, which has a very ſerpentine courſe, with low land on the *Banks*, except at *two* or *three* places where they are *ſteep*; At the 2d. of theſe we ſaw many *Monkeys*, and ſome of the boats crew aſſured me they ſaw one Deer through the Trees.

There

1760. May 22. There is, in the river, *one ſmall Iſland*, made by two channels which is the only *creek* we ſaw that had a paſſage, tho' we entered another farther up. Upon the banks of the river, are many *Balibagoo* and other Trees, which ſtretching their branches acroſs, at length ſtop'd our rout, as it was then noon, and as it appeared an endleſs work to cut our way through, I determined to go no farther up.

There was near here a great number of *Arecca Trees* in a *plain*, where we landed and found ſeveral people of the Country, who were very civil. *Some* had *white-metal Earings*, but whether of *Silver*, and if of *Silver*, whether the produce of the Iſland, I can't ſay.

A little after noon we ſet out on our return, which was expedited by the *ſtream* of the *river*, it was here very *good water*, as it was indeed much lower.

Some way below the *Arecca plain* we ſaw ſome *Guavoe Trees* and found a *row* of *Stakes* run quite acroſs the river, of which we were obliged to remove ſome, to open a paſſage for the boat going up, and now replaced them; juſt below it, was a large *path*, probably leading to ſome *Town*, but I did not think proper to go in queſt of it, as, in coming up, I had landed on the *left* ſide and gone a good way inwards; Whilſt here the *firſt* time a *Chineſe* paſſed over the River, by the path above-mentioned, from the *Left* to the *Right* ſide. As we ſaw no *Chineſe* above the *row* of *Stakes*, I fancy it was the Limit of their Juriſdiction.

In our return to the Veſſel, we put aſhore on the S°. ſide of the *bay*, where are ſome houſes at a little diſtance. We ſaw ſome *wild poultry* and plenty of Dammer Trees, but nothing elſe remarkable.

The Weather this day was very pleaſant.

Got

1760. May 23. Got ſome firewood aboard and finding it very tedious *watering*, juſt ſecured a ſufficiency to carry us to *Turon* in *Cochin-China*.

May 24. Unmoored, Weighed and warp'd out of *Gilium Harbour* with the wind at S°. Fair Weather.

P M. Wind S b E, at midnight E N E, at 3 A M, N E, at Sunriſe E N E, at 7 Calm.

Before I leave this place I ſhall ſay a few words more of Hainan as it is an Iſland little frequented by Europeans.

The N E part of the Iſland appears to be the fineſt Land, but having ſeen it only at a diſtance, I cannot ſpeak particularly of it; the *South part*, by which I mean, from *The Brothers* to *Gilium*, is generally *high woody Land*, with many level Spots fit for cultivation; the Soil is *good*, without being *luxuriant*, and the Country agreeable enough, without forming a picture for romance: the Inhabitants in this part are few in number, and conſequently the Land but little improved, though it produces plenty of *Cotton*, both large and ſmall, there is alſo plenty of *Wild-Indigo*, and I preſume, if theſe articles were improved, great benefit would accrue: There is another Tree growing on the Banks of the river in great abundance, it is named *Balibagoo* in the *Phillipin Iſlands*, of the *bark* is made a kind of ſmall rope which very much reſembles *hemp*. There is alſo great plenty of *Dammer Trees* and a kind of *Dwarf Palm* which yields a fruit growing in Bunches which are tolerable to eat; Theſe are the only vegetable of any conſideration I ſaw except a few *Tamarind Trees*, for although there be great plenty of wood it does not appear fit for building Ships. I was aſſured by a *Swede* who wintered at *Ling-tſoui* that they found great plenty of that *beautiful ſweet ſcented*

wood

1760. May 24. *wood* called *Roſe-wood*, but I did not happen to meet with any.

Water may be had at *Gilium* from Wells, by digging 8 or 10 feet below the ſurface, but it is not very good; means might be uſed to get the water from the river, where it ſeems to be very good, but, as for this a boat muſt go ſome miles up, it would be very inconvenient watering from thence.

Gilium Harbour is entirely *land-lock'd*, the S W ſide is a kind of *Peninſula*, the Iſthmus which is flat for a great way, is not a mile broad and is under the command of no land on that ſide; though the Land on the oppoſite ſide of the Entrance would be under command, in ſome meaſure, from the hills on the *Peninſula*; yet as the Land on the *Eaſtern* ſide ſeems to be commanded from Hill to Hill, no Works on the *Weſtern* Side only would be ſufficient to ſecure Veſſels in the harbour; the 1ſt. Riſing ground on the *Eaſtern* ſide is very near *rocky point*, but is no more than a *hillock*; the next, ſomewhat higher, ſeems within muſquet ſhot of the firſt, and the more remote has the ſame advantage over the *Second*.

The Country here is not well inhabited, the *Natives*, who ſeem the moſt numerous, are in general a well-featured and ſtout-limbed people, of a dark colour; they ſeem very civil and humane, they dreſs their hair in a moſt remarkable manner, it is ſeparated both ways, that *behind* is doubled up; but that *before* is tied in a tail, and then rolled round like a piece of ribbon and pin'd, generally with two Ivory pins, above their forehead.

Some of our people who were aſhore with Cutlaſſes, were, by ſigns, invited to cut off the heads of the *Chineſe*, whoſe backs were turn'd: Our People reported them to be very good

marksmen

1760. May 24. markſmen with the bow; they ſeem to have very little communication with the Chineſe, and, from the circumſtance abovementioned, are very little inclined towards them, but, from what information I could obtain, they have no wars.

May 25. In the morning continued warping out and at noon got under ſail, being then in 10 Fath. P M. Wind S. 8 P M. Wind E b S. Lightning all round. A M Calm.

At Noon Lat. O 8°. 9′ 35″ N bad Obſervation.

☉ 86°. 56′ + 16′ − 4′ = 87°. 8′ Z D 2°. 52′ Decl. 21°. 1′ 35″ Lat. 8°. 9′ 35″ N.

May 26. P M.

L. Point Gilium bay	and R. Ext. E. Siſter	W 30°. —′ N
L. Ext. W. Siſter -	and Diſt. point - -	21. —
L. Ext. E. D° - -	and Middle W. Siſter	25. —

N. B. The two L. Extrs. of the Siſters are about W 20°. —′ N

1ſt. Rock and Diſt. Point - - - - - -	22°. —′
2d. D° - and d°. - - - - - - - -	22. 30

The *E Siſter* is the loweſt, and has two ſmall ſaddles; The *W. Siſter* a Table in the middle, and at each end of it a ſmall ſaddle; the N°. part of both have points, and off the S°. End of the *W. Siſter* are *two* ſmall hummocks, and at the S°. End of the *E. Siſter*, *one*, looking like Iſlands, though probably not disjoin'd.

L. Ext. E. Siſter	and R. Ext. W. Siſter -	W 36°. —′ N
1ſt. Rock - -	and L. Ext. D° - - -	29. —
2d. D° - - -	and d° - - - - - -	28. 30

At Sunſet 17 Ouze. (Logbearings.)

The Extremes in ſight from - - - E b S Southerly
to an Iſland and ſome other
high Land in one - - W N W
The neareſt the ſhore ¾ mile diſt. N°.

H.

1760. May 26.

H	Weather	Winds	Courſe	K	F	Soundings.
1		S				—
2		S S E				9. 9 ½
3						10. 10. 10 ½ } Working out to clear the Land
4						10
5						11. 11. 13. 14. 16
6		S E	S W	2	4	17
7				1	2	20
8, 9			W S W	4	6	—
10	Hazey			3	—	22 Mud
11, 12	Lights. all round			5	3	25
1, 2				6	4	25
3, 4				5	—	23
5, 6				5	—	24 Soft mud { At Sunriſe Ex. { E b N Nv. N N W ½ W abt. 4 Ls.
7, 8				6	3	25 Shells and Coral
9, 10				8	7	30
11, 12				5	4	30 Mud

At Noon Lat. O 17°. 49′ N 34 Fath. Ouze.

☉ 86°. 25′ + 16′ − 4′ = 86°. 37′ Z D 3°. 23′ Decl. 21°. 12′ Lat. 17°. 49′ N.

L. Ext. in ſight - - - - - - - -	N 1°. —′ W
R. Ext. Hummock of Hainan - - -	N 57. — E
Remarkable Noſe Peak - - - - -	7. —
1ſt. Viſible point to right of it - - -	23. —
2d. D° - - - ſuppoſed Yaitcheou Point	45. —

May 27.

H	Weather	Winds	Courſe	K	F	Soundings
1, 2	Fair	S E	S W	2	5	40 Ouze
3				2	—	—
4				3	—	45
5				3	—	—
6				3	—	45

At ½ paſt 2 P M 40 Fath. Ouze.

L. Ext. Hainan - - - - - - - - -	N 3°. —′ E
1ſt. Viſible Point N 25° E or - - - -	26. —
2d. D° or Yaitcheou Point - - - -	45. —

1760.
May 27.

At ½ paſt 4 P M 45 Ouze.

L. Ext. Hainan - - - - - - - - - -	N 6°. — E
1ſt. Viſible Point - - - - - - - - -	28. —
2d. or Yaitcheou Point N 45° —′ E or -	46. —

At 6 P M. 45 Ouze.

L. Ext. Hainan - - - - - - - - - -	N 9°. —′ E
Noſe Peak - - - - - - - - - - -	15. —
2d point or Yaitcheou Point - - - -	47. —

I paſſed at too great a diſtance from the part of *Hainan* to the *Weſtward* of *Gilium Outer Bay* to make any particular obſervations; farther than that near the *W. Extreme* there is a *double peak* though not very remarkable, and to the Right of this a very remarkable *noſe* reſembling that of *Pulicat Ridge*, on the *Coaſt* of *Choromandel*, when that of *Pulicat* bears N°.

The Courſe from Noon to 6 P M was by the Land S 47°. W only 2°. more *weſterly* than by the Log. At this time we loſt ſight of Hainan.

The Auguſt following in my return I made this Iſland, and ſhall inſert here the few obſervations I had an opportunity of making.

1760. Aug. 28.

H	Weather	Winds	Course	K	F	Soundings
1		W b S	N E	2	—	— Saw part of Hainan N b E
2			N E ½ E	3	—	—
3			E b N	3	—	35 Ouze
4, 5				4	6	
6		S W	E	2	2	35 At sunſ { The Extremes E N E to N b W 12 Leagues
7, 8		S E	E N E	2	4	—
9, 10		S E b E	N E b E	3	3	36
11, 12		S E	E N E	4	—	35
1, 2		S E b E	N E b E	3	2	35
3, 4				2	2	35
5		N E	E S E	1	2	—At sunr. { The Extremes from N W to one of the Brothers N E ½ E
6		N E b N	E b S	1	2	36 { The S E Pt. of Gilium N E Ny. 4 Ls.
7, 9			E	3	6	{ The Ex. from Gelang Pt. N E b E
1, 12		Calm			—	— At Noon { to - - - - N W ½ W S°. Point of Hainan N b E 12′ diſt.

☉ 81°. 20′ + 16′ − 4′ = 81°. 32′ Z D 8°. 28′ Decl. 9°. 37′ 21″ Lat. O. 8°. 5′ 21″ N

Aug. 29.

H	Weather	Winds	Course	K	F	Soundings
1		Calm		—	—	—
2		S W	E	1	2	—
3		W		2	3	—
4			E ½ N	3	3	—
5			E b N	3	2	— At ſunſet { The Extremes in Sight from N E ½ E to W ¾ N
6	Cloudy		E b N ½ N	3	3	35 Ouze { Middle Brother N W b W 7 or 8′
7, 8	Lightning in N E		N E b E	5	3	35
9, 11				4	—	—
12		S W		1	2	35
1, 2				2	6	35
3			E N E	1	3	40
4, 6		W	N E b E	4	3	43 At Sunriſe { The Ex. fr. Tinhoza N E ½ N to - - - S W ¾ S
7, 8				3	—	43 { The neareſt Sh. 5 or 6′ diſt. N W b N
9, 10				3	—	—
11	Cloudy & Thunder			1	2	43 At noon { The Ex. fr. Tinhoza N N E ½ E to - - - - W S W
12		S W b W	N E b E ½ E	2	—	— { The neareſt Sh. 4 Leag. W N W

I was at this time much afflicted with a pain in my eyes, which at times had almoſt blinded me for ſome days, though now not ſo violent; but this prevented my taking many bearings or making my obſervations on this Coaſt in returning, however, in the afternoon I took a ſketch of the Land to the *Weſtward* of *Gilium*, which is repreſented in View (N 10.) viz.

1760. Aug. 29.

1.	- - - - - - - - - - - - - -	W	37°. —′ N
2.	- - - - - - - - - - - - - -		39. —
3.	This ſpace obſcure - - - - - -		
4.	Weſtern Siſter 15 or 16′ diſt. - -	N	30. 30 W
5.			28. 30
6.	- - - - - - - - - - - - - -		27. —
7.	- - - - - - - - - - - - - -		26. 30
8.	Sharp Peak and L. Ext. } Eaſtern Siſter 12 or 14′		22. —
9.	- - - - R. Ext. }		21. —
10.	- - - - - - - - - - - - - -		15. —
11.	Obſcure - - - - - - - - - - -		
12.	Point - - - - - 10 or 12′ - - -		8. —
13.	- - - - - - - - - - - - - -	N	2. — E

The Entrance of Gilium to the Right of this.

At Noon

☉ 80°. 36′ + 16′ — 4′ = 80°. 48′. Z D 9°. 12′. Decl. 9°. 16′. Lat. O. 18°. 28′ N

Aug. 30.

H	Weather	Winds	Courſe	K	F	Soundings
1, 2	Cloudy	S W	N E	6	2	— The Ext. from - N ½ W
3, 4		S S W	N N E ½ E	4	4	44 Ouze to - - W S W
5, 6				4	2	55 No grd. At ſunſ. Tinhoza W N W 3 or 4′ diſt.
7, 8				4	2	60 Ouze Tinhoza falſo N°
9					5	—
10		N	E N E	2		—
11		Calm				57
12						57
1, 2						—
3, 4		S W b S	N N E	4	2	60 At Sunriſe The Ext. from N b W
5, 6		S S W		6		60 to Tinhoza S W
7				2	3	— Neareſt ſhore 5 Leag.. W N W
8			N b W	3		— Saw many fiſhing boats
9, 10		S W b S		7	3	— Saw Feou-Kieou Iſland N b E
11, 12				5	5	— At Noon. The Ext. from d° N 31°. —′ E to - - - S W b S Neareſt part 3 or 4 Leag. N W

At

1760.
Aug. 30. At Noon Lat. O 19°. 21′ ½ N.

☉ 79°. 21′ + 16′ — 4′ = 79°. 33′ ZD. 10°. 27′ Decl. 8°. 54′ 28″ Lat. O 19°. 21′ 28″ N.

Peak of Feou-Kieou Iſland (Vide View N 1. & 2.) N 31°. — E
10 or 12 Leagues diſtant.
Viſible Extreme of Hainan - - - - - N 1. 30 W
The Peak (View N 3.) 12 or 15′ diſt. - - W 34. — N
Firſt Highland to ſouthward of d° - - - W

Aug. 31.

H	Weather	Winds	Courſe	K	F	Soundings
1	Hazey	S	N b E	3	5	16 Black Sand
2			N E b N	4	—	16. 17
3			N E	3	3	17
4			N E ½ E	4	2	18
5			N E b E	4	—	19
6		S b W		3	—	26
7				2	5	33
8				2	3	34
9, 10				4	5	35. 35
11				3	4	50

At Sunſet
Ouze

The Ext. of Hainan from N ½ E to S W ½ W
Neareſt ſhore 4 or 5′ - - N
Tayas - - - - - - N E b N

In the Evening when the R. Ext. of *Feou-Kieou Iſland* bore N b E ½ E 2 or 3 Leagues.

The *Tayas* were ſeen from the Fore Yard about N E b N 9 or 10 Leagues.

But as it was evening we had not an Opportunity of determining their ſituation minutely, though I am inclined to think they cannot be under 20°. N.

At Sunſet the R. Ext. of Feou-*Kieou* Iſland bore N°. 4 or 5 miles diſt.

At Sunriſe we had no Land in ſight. And,

Sep. 1. At day break had ſight of the *Mandarin Cap* and *Sanciam*.

Courſes

			K	F
1760. Sept. 1.	Courſes from Sunſet 31ſt Auguſt to Noon	N E b N	49.	3
		N N E	9.	—
	Noon - - to 5 A M 1ſt Sept.	N N E	53.	—
	5 A M 1ſt Sept. to Sunriſe - -	N E b E	3.	—

At Sunriſe. The *Mandarin's Cap* bore N 37°. — 1 ½ diſt.

MEMOIR

OF

THE CHART

OF THE WEST COAST OF

PALAWAN.

MEMOIR

OF

THE CHART

OF THE WEST COAST OF

PALAWAN, OR PARAGUA.

CONTAINING

The Journal of the Schooner CUDDALORE,

In DECEMBER, 1761.

BY

ALEXANDER DALRYMPLE, ESQ.

LONDON:

Printed in the Year M DCC LXXI.

ERRATA.

Page 10. Line 11. For 57°. 19′ Read 57°. 9′

22. 46½ 22. 46½

17. 7. —S E 7. —S

K F K F

11. in the Log at 4H. —. 50 1. —. 50

12. Line 15. 22°. 52′½ 22°. 52′½

14. in the firſt Log in Column K at 3. 1. 6 —. 6

4. —.— 1. —

At the Bottom the Bearings S° ſhould be oppoſite *Deep Bay* Pt.

16. Line 11. Mem. *Further Pt.* 5 or 6 Leagues diſtant in one with R Ext. *Arched Iſland* S 17°. —W

17. Line 12. Variation - 2°. 31′ r. 3°. 21′W

22. In Log oppoſite 1H. in Column K. for 2. 2 r. 1. 2

26. Line 12. - - - 1°. —N E 1°. —N

14. Variation 1. 15W r. 0. 32E

6. From the Botom, for C 31°. 30′ r. 33°. 30′

27. 16. Variation - - - - r 0. 12E

MEMOIR OF THE CHART

OF THE

WEST COAST OF PALAWAN.

As this Chart is entirely laid down from my own Obſervations in the Schooner Cuddalore, the beſt Explanation of it is that Veſſel's Journal from 1ſt December 1761, when I got Sight of the *Calamianes*, to the 13th at Noon when in Sight of *Balabac*.

It may not be improper in the firſt Place to explain to the Reader who is not converſant in Sea-Affairs, that Navigators reckon the Hours after *Noon* to Midnight, as belonging to the next Day; thus *After-Noon* of the 30th November, is the 1ſt December by Sea-Reckoning. The Common and Sea-Reckoning agree at all other Times.

Journal of the Schooner Cuddalore from Manila 1761.

1761. Dec. 1. Having in the Afternoon paſſed *Goat Iſland*, which lies off the Entrance of *Manila Bay*, I took my Departure at Sun-Set, when

Goat Iſland - -	bore -	E N E ¼ N
Ambil - - - - - -		E
R Extreme of *Mindoro* - -		S E ½ E

Day	Weather	Winds	Latitudes		MD
			O	A	
1 Dec. Noon	Cloudy - -	N b E, N W, N E b N - - - - -	12°. 31′	12°. 49′	Goat Iſland 0°. 26′ W

At Noon ſaw the *Calamianes*
From a Hummock ſuppoſed *Calavit*, E 5°. S 10 or 12 L. diſt.
To another Hummock - - E 25. S 6 or 8.

The *laſt* ſuppoſed to be the moſt *Weſtern* Iſland between *Calamianes* and *Buſvagan*, in *Murillo*'s Map of the *Philipinas*, printed at *Manila* in 1749.

There was diſtant Land viſible between thoſe above-mentioned, but the Weather, being hazey, did not allow me to take a View of the Land.

1761.
Dec. 2.

H	Weather	Winds	Courſe	K	F
1, 2	Cloudy	N N E	S	10	2
3, 4	———	N	S b W	9	—
5—	———	———	———	4	4
6, 7	———	N N E, N	S W b S	10	2
8—	———	———	S W	5	—
9, 6½	———	N W	S W b S	5½	4
7, 8	———	———	S S E	6	4
9 —	———	———	S	4	—
10 —	———	———	S b W	4	—
11, 12	———	———	S W ½ S	6	

At 4 P M The N Extr. in Sight of the *Calamianes* about - - - - N E
The Iſland (which was E 25°. S at Noon) E N E
At this Time ſaw the Land to the *Southward* the outermoſt Hummock bearing - S ¼ W
At 5 P M
The Iſland (which was E 25°. S at Noon) N E ½ E
Vide View N 1
a - - - - - S S E ½ E
b Peak of *Linapacan* - - S b E
c Ragged I. - - - S ¼ W
d N Point *Palawan* - - S b W
At 7 A M—The Land of *Palawan* was viſible, but indiſtinctly on account of the Thickneſs of the Weather.
At ½ paſt 7 A M
The viſible Extr. being an high Iſland bore S S E
I ſtood for it, intending to coaſt the Shore, ſuppoſing the Iſland to lie nearly N and S as *Murillo* deſcribes.

About 8 A M we were a-breaſt of a deep Bay, which I then ſuppoſed to be *Malampaya*.—N 2. is a View of the Iſlands on each Side.

The Iſland which I have called *High Iſland* is a very good Mark, as it is by much the higheſt of any we have ſeen on this Coaſt. To the *Northward* of it, there is a *peaked Rock*, which we opened as we paſſed along; to the *Southward* of *High Iſland*, there is a ſmaller Iſland, not very high, we paſſed within leſs than 3 Miles of it, the Sea broke violently on the Shore, there being at this Time a great Swell from the *Northweſtward*.

About 9 A M we ſaw Land farther out, being a Point with a peaked Rock cloſe to it, bearing S°. about 3 Leagues diſtant.

Soon after we ſaw pretty low Land like Iſlands without this, bearing about S b W 5 or 6 Leagues diſtant.—We ſteered towards them.

1761. And about 10 A M we ſaw very high diſtant Land to the S W, by which we found the trenching of the Coaſt in *Murillo*'s Map to be extremely erroneous; and having in the Morning found the Fore-Stay broke, we were obliged till now to ſteer a Courſe ſcarce clear of the Land we had before ſeen.—When the Stay was repaired we hauled our Wind, and were at Noon a-breaſt of the *Bay*, off which the laſt mentioned Iſlands lie.

We had no Obſervation on account of the Thickneſs of the Weather.—Our Latitude by Account was 10°. 54′ N. M D a Goat Iſland 1°. 12′ W.

Dec. 3. In the Afternoon we could perceive Land, beyond the *High Land*, which terminates in a *Bluff Point*, as that Land ſtretched out farther to the *Weſtward*, and as the Wind was freſh in Squalls, ſetting directly upon the Shore, with a tumbling Sea from the N W—conſidering that the Weather had a very bad Appearance, and that we could not, without the utmoſt Hazard, carry ſuch a Sail in the Night, and, conſequently, could not expect to clear the Land; At 2 P M I determined to bear away for a *Bay*, in the Bottom whereof I could perceive an *Iſland*, behind which I hoped to find ſome Shelter.

We weathered the *Bluff Point* with great Eaſe, though we kept from the Wind, which made me conjecture there was a Current ſetting off Shore to the *S Weſtward*.—Having freſh Way, we had no Soundings till in the Bay, though within us off the Bluff Point, the Water was diſcoloured like Soundings,

As a knowledge of this *Bay* may be of great importance to any Veſſel in like Circumſtances, I have given a Sketch of it, in a Compartment of the Chart: This Sketch may be uſeful on occaſion, though it is not compleat or minutely exact,

from

1761. from the want of a Boat, which unluckily broke adrift in the Night, and from the rough Sea which prevented the utmoſt exactitude in ſome of the Bearings.

This *Bay* has very deep Water, for we anchored in 22 Fathom, within leſs than half a Mile of the *Iſland*; and ſtill nearer the *Iſland*, even within a Cable's Length, we had no leſs Water; in mid Channel there is about 35 Fathom ſtiff and ſoft Mud: The Depth of Water is the more remarkable as there is from 45 to 55 Fathoms 10 or 12 Leagues off to ſea, though *there* the Bottom is chiefly coarſe Sand and Gravel.

Where we lay was as ſmooth as a Mill-Pond; as I had no Boat, I could not ſound in the *Bay* or Channels, which are not minutely laid down: This *Bay* in coming from the *Northward* may be known by the *High Lands* on the *Eaſt* Side of it: Some part of theſe Lands, as may be ſeen in the View N 3, is of a very remarkable Appearance. To the S W there is alſo *high Land*, making in *two Peaks*, the one much higher than the other; but as the Weather was very unfavourable, it prevented a minute Deſcription of the Land, or a compleat View of that on the *South Weſt* Side of the *Bay*. The Bottom of the *Bay* is low Land, in compariſon of any other I have yet ſeen on this Coaſt; the Country is every where covered with Woods, without the leaſt Appearance of Inhabitants.

The *Outer* Iſland makes like a round Hummock from the Sea, and as you draw near on either Side the *Three Peaked* Iſland will be an infallible Mark.—There ſeemed to be diſcoloured Water ſtretching between *Outer* Iſland and *Three Peaked* Iſland, but no Breakers to be ſeen in mid Channel, though when we ran into the *Bay* there was a prodigious Swell from the N W.

Dec. 4. At Noon I had a tolerable Obſervation, by which I made our Anchor to lie in 10°. 13′ ½ N—M D a Goat Iſland 1°. 18′ W, but

1761. but the Difference of Latitude by O and A from 30th November, was $\left.\begin{matrix}18'\\23'\end{matrix}\right\} = 41'$ being ſo much to the *Southward* of Account, in two Days; but as we had the Wind chiefly from the *N Weſtward*, and a great Sea from that Quarter, it is probable the Default in our Meridien Diſtance, if any, is by no means equal to that of Latitude. This Day's Obſervation, though tolerable, is not minutely to be confided in; by this Obſervation I make *Outer* Iſland to lie in 10°. 17′ N, which, by a very bad Obſervation a-breaſt of it, I made only in 10°. 8′ N.

☉57°. 17′ + 16′ − 4′½ = 57°. 28′½ Z D 32°. 31′½ Dec. 22°. 18′ Lat. 10°. 13′½ N.

The Wind this Day from W b S to N b E.

From our Station at Anchor in this *Bay*, in 22 Fathom ſoft greeniſh Clay, the View of the Lands on the *Eaſt* Side of the *Bay* N 3 was taken, viz.

		°	′		Diſtance.
a	Bluff Point - - - - -	N 15.	—	E	9 or 10 Miles.
b	- - - - - - - - - -	16.	30		8 or 9
c	- - - - - - - - - -	20.	—		
d	- - - - - - - - - -	22.	30		6 or 7
e	- - - - - - - - - -	23.	—		
f	- - - - - - - - - -	26.	30		4
g	- - - - - - - - - -	30.	30		3½
h	- - - - - - - - - -	36.	30		
i	- - - - - - - - - -	40.	—		8 or 9
k	- - - - - - - - - -	E 36.	—	N	8 or 9
l	- - - - - - - - - -	34.	—		4 or 5
m	- - - - - - - - - -	31.	30		8 or 9
n	- - - - - - - - - -	31.	—		3
o	- - - - - - - - - -	30.	30		4 or 5
p	- - - - - - - - - -	—	—		8 or 9

					Distance.
1761	q	E	27. —	N —	—
	r		22. 30 / 21. 30		12 or 15 Miles.
	s		10. —		
	t		8. 30		12 or 15
	u		3. 30		2
	v Little Hummock Iſland	S	17. —	E	$3\frac{1}{2}$
	xx Woody Iſland		15. — / 7. —		3
	Small Rocky Iſland	S	17. —	W	
	Inner Iſland				
	Rocky Point or L Ext.		30. —		
	R Ext.	W	2. 30	N	
	P High Peak	S	35. —	W	14
	Long Iſland L Ext.	W	17. —	N	
	Harbour Iſland	N 35. — W / N 2. — E			$\frac{1}{2}$

Dec. 5. The Wind variable all round.

At 9 A M weighed with a light Breeze at S S E and got out of the *Bay* by Noon.—Soundings from 22 to 35 Fathom ſoft. Lat. by a bad Obſervation 10°. 8′ N a-breaſt of *Outer* Iſland.

In coming out of the *Bay* the following Bearings were taken

L Ext. Harbour Iſland and L Ext. *Long Iſland*		W	12°. — S	
	R Ext. Inner Iſland		14. —	
R Ext.	*Rock* off *Three Peaked Iſland*	N	10. 30 W	Vide View N 4
	R Ext. D° *Iſland*		11. 30	
	Peak D° D°		12. —	
	L Ext. D°		13. —	
	R Ext. *Outer Iſland* 3′ diſtant		22. 30	
	Nearer Point of *Outer Iſland*		25. 30	
	R Ext. *Long Iſland*		45. —	
	Another Pt D°	W	6. — S	
L Ext.	L Ext. *Inner Iſland*	S	21. — W	
R Ext. *Outer Iſland* and	*Rock* cloſe to *Outer Iſland*	N	43. — W	
R Ext. *Harbour Iſland* and	a *Point* at the Bottom of the Bay	S	15. — W	

Harbour

1761
Dec. 6.

Harbour Iſland is narrow, lying N b E and S b W nearly, about a Mile and a Half in Length; whilſt we lay in this *Bay*, the Weather was ſqually with Rain.

P M

Bluff Point and L Ext. of *Iſland* to N^d^ of *High Iſland* - - - - - - - - - } N 40°. — E

D° - - - - - L Ext. of *High Iſland* - 44.

D° and Iſland (ſup^d^ both, the *outermoſt Iſlands*, in the *Northern Bay*, in one) } E { 40. — 35. — } N

A ſmall Rock viſible within.

D° and *Inner Iſland*—(qu. if an Iſland) - { 30. — 24. —

D° - - - *Inner Point* - - - - - - - 12. —

R Ext. *Outer* Iſland and two other Points - - S 35. — W

L Ext. D° - - and L Ext. *Long Iſland* and L Ext. *Inner Iſland* } South

and *Three Peaked Iſland* S 3. — E

L Ext. *Harbour* Iſland and D° - - - - - - 10. —

Dec. 6.	H	Weather	Winds	Courſe	K	F	Soundings
	1	Squally	S	N b W	2	—	35 Soft
	2, 3	———	S W	N W	4	—	
	4	———	S S W	W N W	2	—	
	5	———	———	W b N	1	—	
	6	———	———	W S W	1	—	
	7	———	S E b E	S W	1	4	
	8	———	———	S S W	1	4	
	9	Cloudy	S S E	———	1	—	40 no Ground
	10, 11	———	———	———	2	—	40 no Ground
	12	———	———	S W	1	—	40 no Ground
	1	———	S	W S W	1	—	42 Ground
	2	———	———	———	0	4	42
	3, 4	———	———	W	2	—	
	5, 6	———	Calm	Hd. W b S			50 55
	7, 8	———	S S E	S W	3	—	
	9	Squally and Rain	———	———	2	4	
	10	———	———	———	3	—	
	11	———	S	W S W	3	—	
	12	———	S S E	S W	3	—	

At

1761. At Noon had no Obſervation, Lat by A 10°. 9′ N. M D a *Goat Iſland* 1°. 42′ W—I took my Departure from *Outer Iſland* allowing it to lie in 10°. 17′ N. M D a *Goat Iſland* 1°. 18′ W.

Dec. 7.	H	Weather	Winds	Courſe	K	F	Soundings
	1, 2	Squally and Rain	South	W S W	2	—	52 Soft
	3, 4				2	—	50
	5, 6		S S E	S W	2	—	55
	7				2	—	55
	8	Squally	S E b S	S W b S	2	—	40 no Ground
	9, 12		E S E	S	8	—	
	1, 2	Fair	S S E	S W	1	—	
	3, 4		S	W S W	1	4	
	5, 7	Cloudy	S S E	S W	2	—	45 Gravel
	8, 10				1	4	45 no Ground
	11, 12				2	—	90 Soft

At 7 A M ſaw, from the lower Yard, two Shoals
The Northern, having a Rock above Water, bearing S E
The Southern, which had high *Breakers* and appeared of great Extent, - - - - - } S 5°. W
The laſt being in one with a *Bluff Point*, which was the viſible Extreme of *Palawan*.

At Noon—they were not to be diſtinguiſhed; Latitude by a bad Obſervation 10°. 11′ N. Lat. A 9°. 50′ N by which it ſeems we have had a Current ſetting to the *Northward* 21′ in two Days, though it may perhaps be owing ſolely to the Swell from the *Southward*.

Noon. ☉ 56°. 57′ + 16′ − 4 = 57° 9′ Z D 32°. 51′ Dec. 22°. 40′ Lat. 10°. 11′ N.

Dec. 8.	H	Weather	Winds	Courſe	K	F	Soundings
	1, 2	Squally and Rain	South	E	2	2	
	3, 4	Cloudy	S S W	E b S	5		90 Soft
	5, 6				2	4	

At Sunſet there was an Appearance of *Breakers*, though not conſtant, within leſs than a Mile from us to the S S E. A little

1761. before I could ſee none from Maſt Head, nor even the *Rock*, but to the S S E there was an Appearance of *Smoak*, though ſeemingly the Shore was too diſtant to diſtinguiſh this.

From Sunſet to Sunriſe it was calm.

At Sunriſe, the View of the Land, N 5, was taken.

The Chart from leaving the Bay to this Station is very vaguely laid down.

The following are the Bearings of the Land at Sunriſe, and at Noon when the Latitude O was 10°. 4′ ⅔ N. per Chart 10°. 4′ N.

Dec. 8. ☉ 56°. 57′ + 16′ − 4′ = 57°. 19′ Z D 32°. 51′ Dec. 22°. 46′ ½ Lat. 10°. 4′ ⅔ N.

	Sunriſe	Diſt.	Noon	
a The viſible Extreme Nd	E 21°. —′ N	12 or 15 Leag.	E 26°. —′ N.	
b Point within it			23. —	
c Table Point	E 11. — S		4. 0	
d The Table Peak	13. 30		1. —	Alt. 0°. 27
The Appearance of an Iſland	10. —		4. 30	
	2. —		8. 30	
P The High Peak which was ſeen from the Bay	23. —		7. — S	Alt. 1. 15
e Round Land	33. —		15. —	Alt. 0. 45
f Little Peak	37. —		17. 30	
Rocks on the Shoal	37. —		14. —	
g	S 43. — E			
h	40. —			
i	33. 30			
k	27. 30	6 or 7 Leagues		
l	18. —			
m	14. —			
n	2. 30			
o Point forming a deep Bay	S 22. — W		S 16. — W	
Low Point	not viſible		S 2. 30 W	
Extreme in Sight	S 34. 30 W	Hazey ſo as not to be diſtinguiſhed.		

Dec. 8.

H	Weather	Winds	Courſe	K	F	Soundings
6	Cloudy	Eaſt	S W	1,	4	Loſt a Lead, and had by that Accident no Soundings till 9 A M
7, 9	——	——	——	4	6	23
9½	——	——	——	0	6	7
10	——	——	——	0	6	7. 6¾. 6½. 6. 6. 8. 8. 9. 9. 9¾. 9 11. 16. 18 no Ground 30
11, 12	——	——	——	2	4	40 Soft

About

1761. About ½ paſt 9 A M

Dec. 8.

The Rocks on the Shole bore	- - -	E 25° S
An Iſland 4 or 5 Leagues diſt.	- - -	{ 17. 19.
High Peak	- - - - - - - - - -	16.
N°. Extreme in Sight	- - - - - - -	E 20. N
Deep Bay Point	- - - - - - - -	S 19. W

The *Rocks* were viſible under Water, but there was no *Breakers* or *Shoal Water* to be ſeen from Maſt Head.

Dec. 9.

H	Weather	Winds	Courſe	K	F	Soundings
1	Fair	N E	S W	1	—	48 Soft
2	——	——	——	1	—	46
3	——	——	——	1	—	50
4	——	——	——		—	50
4½	——	} Calm	{ Driving to the NW	—	—	36
5	——			—	—	35
5½	——			—	—	10—9. 9. 8. 8. 8. 7½. 7½. 7¼. 7. 8. 8. 8. 9.¼. 13½. 15½. 19½. 28½. 32

Anchored in 32, but brought up in 38.—The Soundings were Coral; I preſume upon the Edge of the Bank: there were no *Breakers* to be ſeen from aloft, though I thought there was a *Roll* of the *Sea* to the *Northweſtward* but as we deepened driving that way, this probably was only owing to the Steepneſs of the Edge of the Bank. As this is nearly the Situation of the *High-Breakers* ſeen on the 7th in the Morning, it is not impoſſible they were occaſioned by the *Great Sea*, making a *Race* on the Edge of the Bank, though in deep Water.

When we anchored in 38 Fathom, about 7 Leagues off Shore the Bearings were

Table Peak	- - - - -	E 3°. N
High Peak	- - - - - -	E 2. S
Long Point	- - - - -	S 4. E
Deep Bay Point	- - - - -	S 13. W

1761. Off this from Croſs Trees appeared two ſmall Hummocks, like Iſlands

L Ext. diſtant Land - - - - - - - S 20°. W
The R Ext. - - - - - - - - - - - obſcure.

Having no Wind in the Night, we continued at Anchor till ½ paſt 9 A M, and immediately after weighing, ſteering S W, though we had ſcarcely yet made ſail, fell into *ſhoal Water*.—Our Cable was rubbed in ſeveral Places.

H	Weather	Winds	Courſe	K	F	Soundings
9½		Light Air at N	S W	—	—	
10	Squally			—	—	7. 8. 8. 8. 9. 9. 14. 20. 25 Coral and then 40.
11				—	—	40
12				—	—	48 no Ground.

At Noon Lat. O 10°. 1′½ N. Lat per Chart 10°. 2′ N

Dec. 1: ☉ 56°. 54′ + 16′ − 4′ = 57°. 6′ Z D 32°. 54 Dec. 22°. 52′½ Lat. 10°. 1′½ N.

Deep Bay Point - - - - - - - - - S 13°. —′ W
Steep Point (being that which was S 5°. W in one with the Shoal on the 7th) - - } 9. —
Long Point, about 7 or 8 Leagues diſt. - - S 5. — E
N°. Extreme in Sight - - - - - - E 17. — N
Table Point - - - - - - - - - - 8. 30
Table Peak - - - - - - - - - - 6. —
Round Land - - - - - - - - - - E 6. 30 S

1761.
Dec. 10.

H	Weather	Winds	Courſe	K	F	Soundings
1	Cloudy	W	S	1	2	
2, 3	———	W b N	S b W	3	—	No Ground 30
4, 5	———	W N W	S S W	1	6	D° - 30, 40
6	———	———	———	—	6	45 fine Sand
	At Sunſet Deep Bay Point - - - - - - S 10°. W					
	Long Point 6 or 7 Leagues diſtant - - S 10. E					
7	SquallyandRain	S	W	—	6	
8	———	———	E	—	4	40
9	———	Calm	S W	—	—	48. 50 ſoft Mud and Sand
10, 11	Rain	———	———	—	—	50. 50. 50. 50. 50. 50
12	———	———	———	—	—	50. 50. 50 45. 35
1	———	———	———	—	—	36. 40. 40
2	Cloudy	———	———	—	—	50. 50
3	———	———	———	—	—	40, 45. 45
4	———	———	———	—	—	45. 45.45
5, 6	———	———	———	—	—	50. 50. 50. 50. 50. 50. 50. 50
7, 8	———	———	———	—	—	50. 50. 50. 50
9	Small Rain	———	———	—	—	50. 48
10	———	———	———	—	—	46. 45
11	———	S S E	W S W	1	4	45. 45
12	———	———	———	—	4	45. 45. 35 Mud and Sand

At Noon Lat. O 9°. 50′ N°. per Chart Lat. 9°. 50 N.

☉57°. + 16′ − 4′ = 57°. 12′ Z D 32°. 48′ Dec. 22°. 58′ Lat. 9°. 50′ N.

At this Time the View N. 6 was taken—the Bearings were

	N°. Extreme in Sight - - - -	E	33°. —	N
	Table Point - - - - - - - - -		29. 30	
	Table Peak - - - - - - - - -		27. —	
	High Peak - - - - - - - - -		22. 30	alt 1°.
	Round Land - - - - - - - - -		17. —	
	Long Point - 10′ or 12′ diſt. -	S	21. —	E
a,	Steep Point - 15 or 16 diſt. -	S	7. 30	W
b	- - - - - - - - - - - - - -		13. —	
c	Deep Bay Point - - - - - -		16. 30	
d	- - - - - - - - - - - - - -		19. 30	
e	- - - - - - - - - - - - - -		21. 30	
f	- - - - - - - - - - - - - -		23.	
g	- - - - - - - - - - - - - -		26. 30	
	Extreme in Sight - - - - - -		34. 30	

1761.
Dec. 11.

H	Weather	Winds	Courſe	K	F	Soundings
1	Cloudy	Calm	S W	—	—	50. 50
2	———	N	S W b S	—	4	50. 50
3	———	N W	S W	1	6	50. 50
4	———	N E	———	—	—	50. 50

At 4 P M there was, from aloft, the Appearance of a *long Shoal* with *Breakers*, between us and the Shore to which it ſeemed to lie parallel; it is probably the middle Shoal of *Murillo*'s Draught, but evidently of leſs Extent; our Soundings, ever ſince we got off the other Bank, have been clear from Coral or Rocks; ſometimes fine Sand, but chiefly a ſtiff Mud mixed with very fine Sand.

At 4 P M

Long Point -	a little to N^{d} - -	E	17°. —′ S
Steep Point -	- - - - -	S	3. — E
Breakers -	- - - - -		25. — E

H	Weathe.	Winds	Courſe	K	F	Soundings.
5	Cloudy	S E	S W	2	4	45. 45
6	———	———	———	2	4	45. 45
7	———	———	———	1	—	19. 30. 33. 35

At Sunſet 19 Fathom Mud and Sand

Very diſtant Point 18 or 20 Leagues diſt.	S	38°. 30′ W
Diſtant Point - 10 or 12 Leagues diſt.		37. —
Point of Land without the Noon's Extreme 6 or 7 Leagues Diſt. - -		36. —
Iſland making in Peak (at Noon in one with a ſmall diſtant Peak) - -		13.
Deep Bay Point - - - -		
Iſland to the N^{d} of this Point - -	S	
Breakers in the Wake of it.	S b E	

1761.
Dec. 11.

H	Weather	Winds	Course	K	F	Soundings
8	Squally and Rain	E	S W b S	1	—	40. 45. 45. 45. 45
9	———	Calm	———	—	—	45. 45.
10	Rain	S	W S W	—	6	No Ground 40
11	———	S S W	S E	2	—	Ground 30. 28. 30
12	———	———	———	1	4	38. 40. 40. 44.
1, 2	Rain	Calm	———	—	—	40. 40. 40. 40. 40. 40. 40. 40
3	———	———	———	—	—	45. 45. 45. 45
4, 8	———	———	S W	—	—	45. 45. 45. 45. 45. 45. 45. 45. 43.
9	———	S	W S W	1	—	40. 40. no Ground
10	———	S S E	S W	2	—	40. 40. 40
11	Hazey	S E b S	———	2	—	40 40. 40.
12	———	———	———	1	—	45. 45. 45. Ground.

In the Forenoon there was a *Roll of the Sea*, which ſeemed to be *Shoal Water*, though the Water did not appear diſcoloured, it was ſeen in one with *Arched* Iſland (the Extreme in the Noon's View) S 18°. 30′ W.

The Land was ſo clouded to the *Northward*, and in general every way, that very few Obſervations could be made; nor was the *High Peak* or *Table Land* to be diſtinguiſhed at Noon. The *Steep Point* and *Deep Bay Point* were indiſtinctly, as the Weather was very hazey, the Obſervation was not minutely to be depended on.

At Noon, Lat. Obſ. 9°. 26′ N per Chart Lat. 9°. 25′ ½ N

☉ 57°. 19′ + 16′ − 4′ = 57°. 31′ Z D 32°. 29′ Dec. 23°. 3′ Lat. 9°. 26′ N.

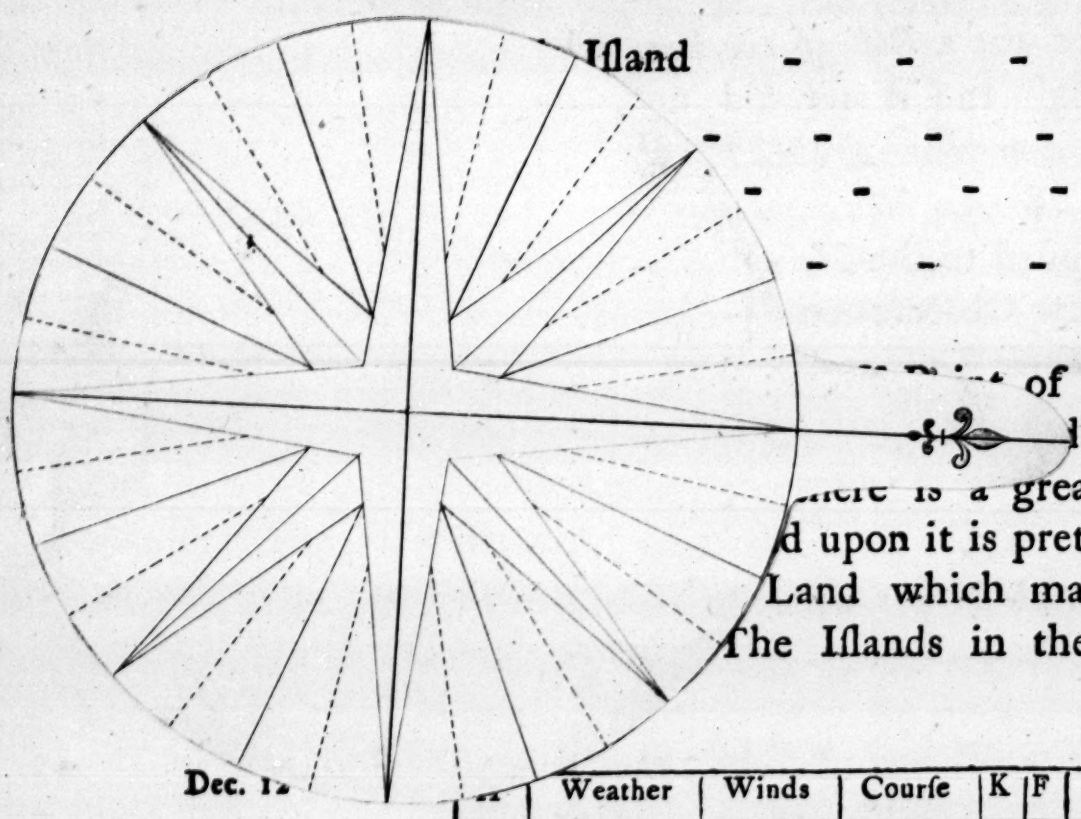
At Noon View N 7. was taken.

Steep Point - - - - - - -	E 16°. — ′	N
a Deep Bay Point - - -	E 11. 30	S
b - - - - -	37. —	
c - - - - -	38. 30	
d - - - - - -	39. —	
e - - - - - -	40. —	

f

1761
Dec. 11.

		Distance.
f - - - - - - - - E	{41. — 44. —} S 10′ or 12′	
g - - - - - - - - -	S 39. — E	
h - - - - - - - -	21. 30	
i i Table Iſland - - -	{17. — 15. —}	6 or 7
k k - - - - - -	{14. 30 13. —}	6 or 8
l - - - - - - -	11. 30	10 or 12
m m Peaked Iſland - - -	{10. — 9. —}	5 or 6
Iſland - - -	{6. — 5. —}	8 or 9
- - - - -	S 9. — W	
- - - - -	14. —	14 or 15
- - - -	{15. 30 17. —}	12



...of the Bay of *Tag-bayoog*; ...ds lying off it, and others ...here is a great deal of *Sea-ſlug* found ...d upon it is pretty low, though within, ...Land which makes the Coaſt, there is ...The Iſlands in the View N 7. lie off this

Dec. 12

H	Weather	Winds	Courſe	K	F	Soundings
1	Hazey	S S E	S W	2	—	30. 35. 35 Soft
2	Small Rain	———	———	2	—	No Ground 50. 50. 50
3	———	———	———	2	—	40. 40. 40
4	Cloudy	———	———	2	—	30. 35. 35. 35
5	———	S E	S W b S	1	6	40. 40
6	———	E	———	1	2	40. 40

P M

P M

1761. Dec. 12.

Peaked Iſland and a Peak - - - - - S 21. — E
Table Iſland and L Ext. 1ſt Twin (laſt being neareſt) - - - - - 29. —
R Ext. D°—and L Ext. Peaked Iſland - 27. —
Table Iſland and Peaked Iſland - - 35. —
Saddle Iſland and the Peak beforementioned 31. —
L Ext. Table Iſland and L Ext. 1ſt Twin - 41. —
Peaked Iſland and — D° (firſt being neareſt) - E 40. — S
R Ext. 1ſt Twin and L Ext. Table Iſland - 37. —
Saddle Iſland and Table Iſland (1ſt being neareſt) 30. —

At Sunſet the Sketch of the Land N° 8 was taken,
Mag. Ampl. W 20°. S. Var. 2°. 31′ W.

Extreme in Sight being R Ext. of a detached Land 10 or 12 Leagues diſtant - - - S 31. — W

P M Land ſeen farther out like Iſlands

a, Point - - - - - - 25. 30
Like an Iſland 12′ or 14′ diſtant - - 19. —
17. —
b, High Land even a-top, being the higheſt ſince leaving the Bay - - - - 11. —
Arched Iſland - -- - - - S 37. — E
40. —
Peak - - - - - - - - 38.
Noſe - - - - - - - E 40. — S
Saddle Iſland - - - - - - 28. 30
25. —
Table Iſland - - - - - 25. —
22. 30
Little Hummock Iſland - - - - 22. —
Twins - - - - - - - - 20. 30
Peaked Iſland - - - - - - 18. —

D Deep

1761. Dec. 12.

Deep Bay Point - - - -	E 11. —	N
Steep Point - - - - - -	20. —	
Peak - - - - - - -	23. 30	

H	Weather	Winds	Courſe	K	F	Soundings
7, 8	Cloudy	E	S W b S	3	—	40. 40. 40 no Ground
9		N E b N		1	4	40 40 Ground
10, 12				6	—	No Ground 35. 35. 35. 35. 35. 35
1				2	—	Ground 38. 38
2				2	—	36. 35. 38. 36
2½				1		
3		S E	W	1	—	35. 35. 35, 25
4			W S W	1	—	20. 17. 7. 7. 7. 20. 25
5				1	—	27. 30. 30
6		E N E		1	—	38. 38. 37. 37
7				1	—	40. 40. 40. 40. 40
8		E S E	S W	1	—	40. 40. 40. 40. 40. 42. 43
9				1	—	43. 43. 43. 43
10			S W b S	1	—	43. 43. 43, 44
11			S S W	—	6	44. 44
12				—	6	44. 44

About Midnight I perceived, at a little Diſtance on the Larboard Quarter, ſomething like *high Breakers* bearing E N E; however they diſappeared again, and as there was a ſimilar Appearance, near the Horizon without us, for a great extent, it was ſuppoſed to be only the Reflexion of the *Moon* which ſhone very bright.

At ½ paſt 2 A M the Man from the Fore-Yard reported he ſaw *Breakers* upon the *Larboard Bow*; they then bore about S S W, and we ſtood off W.—I could diſtinguiſh them very plainly from the Fore-Yard, but could ſee them no where a-head, or farther out than a little beyond the *high Point* of the Land ſet at Sunſet S 31°. W.—Theſe *Breakers* were very near, by our altering them faſt, though we had little wind; I ſet them, at a little before 3 A M, S°. in one with the *remarkable Hummock* (in the View N 8.)—and ſoon after about

S b E

1761. Dec 12. S b E with the *Peak* to the Left of it. When they bore about S S E we had very irregular Soundings 22. 17. 7. 7. 7. 20. 25 by which it is evident we paſt juſt over the Edge of the *Shoal*, which was here extremely narrow, as we had ſcarce way through the Water, and had very few Caſts ſhallow, though the Lead was hove as faſt as poſſible. In the Morning at Day-break we had a View of *Breakers*, almoſt in every Point, and a *Ledge of Rocks* above Water, in one with the *remarkable Hummock*.

At 7 A M the View N 9 was taken, the Bearings were

	A Peak (being the outermoſt Land to be diſtinguiſhed)	E	23°. 30′	N
	A Peak		12. —	
	Low Point		10. —	
a		S	29. 30	E
b			18. 30	
c			14. 30	
d			9. 30	
e	Peak to Left of Remarkable Hummock		6. 30	
f			3. —	
g	Remarkable Hummock		1. —	
		S°		
h	Peak farther in Land	S	2. 30	W
i i	Outer Land		5. —	
			19. —	
k			12. —	
l			13. —	
m	Higheſt Part		14. 30	
n			19. 30	
o o			20. 30	
			22.	
p			22. 30	

1761 Dec. 12.			
Ledge of Rocks above Water	-	{ S 9°. 30′ E 3. — }	2′ or 3′
Breakers of ſmall Extent appearing only ſometimes	- -	S 43. — W	2
Breakers very high	- -	W 36. — N	1 or 1½

Sometime after others more to W^d ſtretching off as far as could be ſeen from Maſt Head

Breakers high and long	- -	{ N 40. — W 35. — }	2′
Breakers	- - - -	N E b N	4
Breakers	- - - -	N b E	4
Breakers, high	- - -	E 13°. S	2

We paſſed to the Right of thoſe bearing S 43°. W, within a ſcant *Half-mile*, but had never ſhallow Water or Change of Soundings from ſoft Ground.

The Plan of this Shoal is inſerted in the Corner of the Chart,

At Noon, Lat. O 9°. 5′½ N° per Chart 9°. 6′ N.

☉ 57°. 35′ + 16′ − 4′ = 57°. 47′ Z D 32°. 13′ Dec. 23°. 7′½ Lat. 9°. 5′½ N.

Viſible Extreme	- -	S 17°. — W	
Hummock	- - -	15. 30	
Higheſt Part of the Land (Ext. at Sunſet)	- - -	6.	
L Ext.	- - -	S 5. — E	
Peak in Land	- -	8. —	
Like an Iſland (not an Iſland)		{ 6. — 10. 30	
Remarkable Hummock	-	{ 10. 30 11. — }	14 or 15′ diſt.
Little Hummock Iſland	-	17. —	10 or 12
High Land	- - -	38. —	15 or 16
Low Point	- - -	E 2. — S	14 or 15

Breakers

1761. Dec. 12.	Breakers - - -	E	3°. 30′ N	3′
	Breakers - - -		29.	4
	Breakers - - -		N	4
	Breakers from Maſt Head		W N W	8 or 9′

This providential Eſcape, thank God, has carried us through the middle Shoal of *Palawan*.

Dec. 13.

H	Weather	Winds	Courſe	K	F	Soundings
1, 3	Fair	N N W	S S W	4	—	No Ground 30. 30. 30. 30. 30. 30
4	Cloudy	N		1	6	D° 30 Ground 25
5				2	4	35. 35
6				2	4	No Ground 30. 30

At Sunſet Mag. Amplitude W 23°. S Var. 0° 15′ W

Iſland off the Point -	S 20°. — W 18. 30	16′ or 18′ diſt.

This rather low, covered with Trees.

Point (being without the Noon's Extreme) - -	17. 30	
Hummock - - -	16. —	
Like a ſmall Iſland - -	3. —	10 or 12
Higheſt Part of *Outer Land* -	South	
Peak in Land - - -	S 35. — E	
Remarkable Hummock -	37. — 39. —	
L Ext. what called Iſland at Noon - - -	E 21. — S	
Little Hummock Iſland -	7. 30	
Low Point - - -	E 20. — N	

There are Breakers ſtretching along Shore from what called Iſland at Noon to this Point, and from hence they run out a conſiderable Way to Seaward,

Hummock Point being the viſible Extreme N^d. E 29°. — N.

P M

1761.
Dec. 13.

P M

H	Weather	Winds	Courſe	K	F	Soundings
7	Cloudy	N N E	S S W	2	4	No Grouud 30. 30
8	———	———	———	2	4	Ground 35
9	———	E N E	S W b S	2	6	35. 34. 33
10	———	———	———	2	4	35. 35. 25 (12 uncertain)
11	———	———	S W	2	4	18. 18. 20. 25. 35
12	———	———	———	2	2	35. 25. 26. 28. 30
1	———	N E	S W b S	2	2	——— 30. 33
2	———	———	———	1	2	——— 33. 33
3	———	E N E	———	1	4	——— 33. 32
4	———	———	———	1	——	——— 30. 30. 30
5	———	———	———	1	4	——— 30. 30
6	———	———	———	2	——	——— 30. 30

In the Night we had 18 Fathom doubling a *Point* nearer than the *Hummock*, which *Point* bore, at Midnight, with the *high Land*, E b N ½ N at which Time the S°. Extreme of the high Land of *Palawan* (which we now opened without the *Hummock Point*) and Iſland S ½ W.

At Sunriſe, vide View N 10.

		°	′	
a	Diſtant Point ſuppoſed N° Point Ilaan - - - - - - - - -	E	42.	30 N
b b	The Iſland off the Point -		42.	30
			42.	—
c	Point off which the Iſland lies		42.	—
d	Sharp Peak, like Noſe in former View - - - - - - - - -		37.	—
e	- - - - - - -		36.	30
f	- - - - - - -		35.	—
g	- - - - - - -		34.	30

h

1761. Dec. 13.	h	- - - - - - -	E	32. 30	N
	i	- - - - - - -		31. 30	
	k	- - - - - - -		26. —	
	l	Mantaleengahaan - - -		{ 26. 30 / 25. 30 }	
	m	- - - - - - -		20. 30	
	n	- - - - - - -		17. —	
	o	- - - - - - -		10. —	
	p	S° Ext. of High Land of Palawan	E	7. 30	S
	q	- - - - - - -		19. —	
	r	Low Point - - -	S	1. —	E 12′ or 14′
		Balabac - - - -	{ S 8. — / 11. — }		W
		Peak - - - - -		9. 30	

Breakers from aloft of great Extent N N W 6′

A M

H	Weather	Winds	Courſe	K	F	Soundings.
7	Cloudy	E N E	S W b S	2	—	Ground 35. 35
8				1	6	No Ground—At 8 the Breakers bore N N E
9				1	2	Ground 30. 30
						At 9 ſaw a ſmall Bank of ſhoal Water, on which it ſometimes broke, bearing W 11°. N. And high Breakers a Maſt Head W S W 9′ or 10′
10		N E b N		1	4	30. 30—At 10 the Shoal W 33°. 30′ N
11				2	—	35. 35
12				2	2	40

At

1761. Dec. 13.

At Noon Lat. ☉ 8°. 26′ N. per Chart 8°. 26′ N.

☉ 58°. 10′ + 16′ − 4′ = 58°. 22′ Z D 31°. 38′ Dec. 23°. 12′.

Little Hummock Iſland, with bright ſandy Beach - -	E	11. 30	N 6 or 7 diſt.
R Ext. High Land of Mantaleengahaan - - - -		26. 30	
Higheſt Part - - -		32. —	
L Ext. - - - -		39. —	
Point - - - - -		35. 30	
Diſt. Peak - - - -		41. —	
Hummock - - - - - -		42. 30	
Point - - - - -	N	43. —	E
S° Ext. High Land on Palawan -		Eaſt	
Low Point, in former Bearings, (ſuppoſed T. Canneepaan) -	E	36. —	S 9 or 10
Farther Point - - - - - - -	S	36. —	E 14 or 15
Diſtant Point Low Land - - -		34. 30	17 or 18
Little low Iſland called Capyas		33. — / 32. 30	10 or 12
L Ext. Diſt. low Land - - -		31. —	
Patoonggang - - - - - -		25. 30 / 22.	6 or 8
Bancalaan - - - - - - -		16. — / 1. —	12 or 15
a L Ext. Balabac - - - - -		South	
b — Peak - - - - -	S	2. —	W Alt. 0°. 30′
c (Morning R Ext.) - - - -		5. —	10 Leagues
d - - - - - - - - - - -		7. —	
e - - - - - - - - - - -		9. 30	
f - R Ext. - - - - - - -		10. —	
P°. Seeam - - - - -		6. — / 14. 30	

At this Time the View of *Balabac* N 11 was taken.

At

1761. Dec. 14. All the Iſlands from *Palawan* to *Balabac* are low and covered with Trees.

P M

H	Weather	Winds	Courſe	K	F
1, 3	Fair	N W	S W b S	8	—
4			S W	3	4
5, 6		N N E		7	—

P M

Patoonggang and low Point of Palawan, (another Point farther out)	E	40. —	S

At 3 P M

Capyas (which is a ſmall round low Iſland)	E	12. —	S
Patoonggang (which is larger than Capyas,) and a farther Point		21. —	
		24. —	
Diſtant Iſland, Maleenſoonoo,		37. —	
		38. —	
Little Iſland, Patawan		39. —	
Diſtant Iſland, Apoo		40. —	
		41. —	
Long Iſland, Gaboong L Ext.		42. —	
Bancalaan, which is a pretty large Iſland, to Appearance nearly round		43. —	
	S	27. —	E
The L Ext. of diſtant low Iſland		12. —	
P°. Seeam is a long Iſland		1. —	
	S	15. —	W

P M

L Ext. Bancalaan, and L Ext. Maleenſoonoo	E	35. —	S
R D° and L Ext. Apoo	S	37. —	E
L D° and another diſtant Iſland	E	30. —	S
R D° and R Ext. Gaboong	E	44. —	
D° and L Ext. D°	E	21. —	

1761. Dec. 14.

P°. Seeam and Balabac Peak - - - -	S 10°. —	E
L Ext. Bancalaan and Patawan - - -	E 20. —	S
L Ext. Seeam and L Ext. Balabac - - -	S 24. 30	E
D° - - and diſtant Iſland - - -	S 31. —	E
D° - - and R Ext. Apoo - - -	S 38. —	E
R Ext. D° and L Ext. Balabac - - -	S 35. —	E
L Ext. Bancalaan and a Point of Palawan (qu. if not an Iſland) - - - - - - -	E 6. —	N
L Ext. Seeam - and R Ext. Gaboong -	E 14. —	S
L Ext. Balabac and Apoo - - - -	E 30. —	S
R Ext. Seeam - and R Ext. Gaboong	E 8. 30	S
L Ext. D° — and L Ext. D° - - -	1. —	N

Seeam and Bancalan lie about E N E and W S W.

At Sunſet, Sun's Ampl. W 24. S Var. 1°. 15′ W

Mantaleengahaan - - - - - - -	E 44. 30	N
R Extreme of high Land of Palawan	36. —	
Bancalaan - - - - - - - - - -	{ 23. 30 / 12. 30 }	
Seeam - - - - - - - - - - - -	{ 8. 30 / 2. — }	
R Ext. Gaboong - - - - - - - -	E 3. 30	S
Maleenſoonoo - - - - - - - - -	10. —	

At this Time the View of Balabac N 12 was taken.

a - - - - - - - - - - - - - -	E 13. 30	S
b - - - - - - - - - - - - -	29. —	
c - - - - - - - - - - - - -	31. 30	
d - - - - - - - - - - - - -	35. —	
e - - - - - - - -	36. —	
f - - - - - - -	S 45. —	E
g - - - - - - - -	41. 30	
h - - - - - - - -	38. —	

1761. Dec. 14.

i	35°. —
k	33. —
l	30. —
m	18. 30
n	15. 30
o	12. —
Once there was the Appearance of a very distant Peak	S 15. — W

H	Weather	Winds	Course	K	F	Soundings
7, 11	Fair	N E b N	S W	16	—	30 no Ground
12, 6	———	N E	N E	15	6	30 no Ground
7	———	———	———	1	4	30 no Ground
8, 10	———	E N E	———	5	—	
11	———	———	———	2	2	
12	———	———	———	2	—	55 no Ground

At Sunrise,—Suns Ampl. E 23°. 40′ S Var.

Balabac	E 32°. 30′ N 22. —	10 or 12 Leag.
Bangue L Ext.	E 29. 30 S.	
Peak Alt. 0°. 10′	30. —	
R Ext.	32. —	

At 10 A M

A Hill on Borneo	S 8°. 30′ E
Keeney Balloo Alt. 56′ L Ext.	6. 30
R Ext.	South

At 11 A M.

Peak of Bangue	E 16. — S
Peak of Balabac	E 25. 30 N

Noon Lat. O 7°. 32′ 32″ N

☉ 59°. — + 16′ — 4′ = 59°. 12′ Z D 30°. 48′ Dec. 23°. 15′ 28″ Lat. 7°. 32′ 32″ N.

Balabac juſt viſible from Deck E 29°. — N 16 or 17 Leag.

Banguey not in Sight

Hill

1761 Dec. 14.	Hill on Borneo - - - - -	S 19°. — E
	Keeney Balloo - - - - -	10. —

I am very ſenſible the Sketch of this Coaſt is far from being compleat; but when it is conſidered that I had no Boat, and that there was not a Perſon on board but myſelf who could *obſerve*, or even work a Day's Work, I am not afraid that there will remain any Ground for Imputation; I have marked the eſtimated Diſtances, not meaning that they are to be relied on in preference to the Chart, but only to ſhew what Degree of Confidence they deſerve, where there are no Interſections to determine the Poſition more exactly; that I have not cooked them will be obvious from the great Diſcordancy of many of them.—The Appearance of Land is ſo much affected by the Weather and other Circumſtances, that this Eſtimation is very precarious, as every Perſon who is accuſtomed to make Draughts from his own Obſervations muſt be ſenſible. Ignorance is always confident; there are many ſeamen who never made a Draught in their Lives, who pretend to be able to *gueſs* Diſtances *exactly* but how they can determine their Gueſs I have no Conception, as the Irregularity of the Tides and Currents near Land makes the Log a very uncertain Guide.

FINIS.